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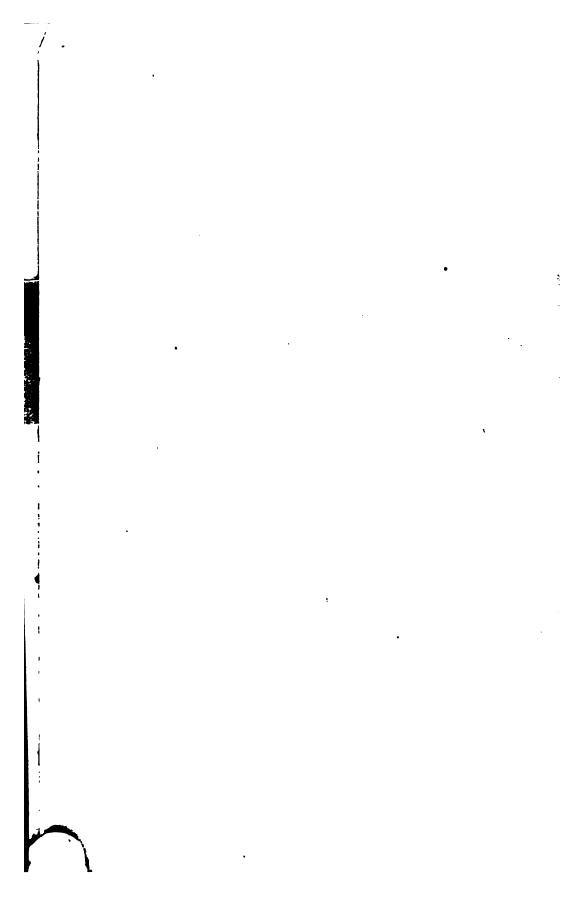
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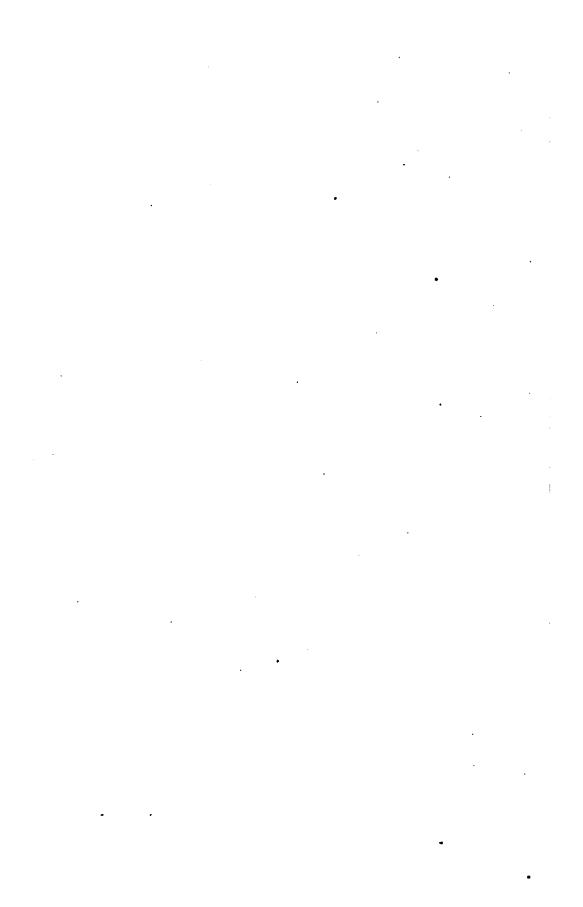
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THE

HERALD OF HEALTH

AND'

JOURNAL OF PHYSICAL CULTURE,

ADVOCATES

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THE TWO WIVES.

BY MRS. ELIZABETH OAKBS SMITH.

CHAPTER I.

THE PROFESSOR was a man such as women, weak in the moral sense, despise and impose upon. Sensitive, gentle, and unworldly, a superior woman would feel a maternal tenderness for him, a desire to shelter and protect, coupled with a religious reverence. Cora, his young wife, was not superior in the accepted sense, but she fascinated and enthralled by a thousand subtile charms, not the least of which were her petulance, willfulness, and limitation. Had she been false, she had been deadly; but, transparent as the light, she evoked tenderness, and enchanted, as a bright child enchants.

The Professor thus writes at the opening of our story.

It is Cora who first speaks:

"The class bell is done ringing, Mr. Lyford."
I could not immediately collect my thoughts,
but there was a look upon the face of Cora that
troubled me.

"Mr. Lyford, darling. Why not, George?"

"Married people are too free and easy to-

gether; but the class is waiting and you ought to go, Mr. Lyford."

"How long did I sleep, dear?"

"Did you sleep?"

"Most certainly. I can not recall the particulars of my dream, but I think it was a strange one."

Cora's lip trembled; she turned her pretty face aside, and then suddenly laid a cold hand in mine, looked eagerly into my face and burst into tears. At this moment a messenger from the college hastened my departure. I kissed her forehead, and went out.

As I threaded my way along the well-worn path, the cool aromas of the fragrant pines and the soothing melody of their whispering branches restored me to myself, and I looked at my watch, which I had all the time held in my hand.

Could it be possible! I had slept less than one minute! I recalled to mind, now that the class bell was ringing, when that strange heaviness overcame me, and I had taken out my watch from my vest pocket to ascertain the exact time. All at once the minutest particulars

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of my vision returned to me—the fine old hunter, Rodman, who so manfully rebuked my imbecilities and vanities; the vast Teocalla; the dirge; all—all came vividly back to my mind, and I felt a thrill of guilty delight as I recalled the passionate beauty of Zalinka. My cheek tingled, my foot moved with unwonted elasticity, and I was like one into whose veins a revivifying flame had been poured, renewing the dews of youth with the vigor of manhood. I felt the rosy flush upon my cheek, and the very air I breathed come laden with goblets upon goblets of ambrosia, mingled with nectar, which I imbibed as if I sat in the midst of the gods.

Entering the long, dusky vestibule, and emerging into the hushed lecture-room, I grew more sobered, and better cognizant of the real, everyday world. I dropped the sun-bright coronal of Apollo, and was once more the grave, pale Professor, with a circle of baldness upon the crown of the head, and a voice not "musical as is Apollo's lute," but a little husky, and needful to be cleared now and then with an emphatic hem! I think my class must have caught sight of a stray beam from my evanishing glory, for more than one student exchanged glances with another, and gazed intently upon my face.

My subject lay upon the metaphysical side of our religious ideas, and in drawing the line of demarkation between those faculties essential to this world and those which are prophetic of another-those which are of the earth earthy, and those which symbolize the heavenly. plunged with a force and certainty wonderful to myself into the region of dreams and visions, showing that here were phenomena pointing unmistakably to a state of existence beyond this world, and giving intimations of powers as yet only in their rudimentary state. I showed that the phenomena of dreams were of themselves distinct and apparently unessential to man as we now find him, and therefore they must have a significancy beyond his present stage of existence.

I showed, and my enthusiasm kindled as I went on, for I am by no means an eloquent man, but a somewhat prosaic Professor, considered, withal, sound, and of a reliable quality of mind; but now I was quite beyond myself in showing that in dreams only do we realize omniscience and ubiquity, that something for which we have no adequate word, by which all things past, present, and to come are cotemporary to the mind; in dreams we are irrespective of time, and the soul steps into its eternal inheritance and super-mundane experience. In dreams we behold the worship of the Brahman, the Egyp-

tian, and the Aztec as one and the same, existing as a part of human science as palpably now as thousands of years ago; and we move in the midst of this vast, stupendous worship, great, beautiful, and prophetic; proof of the hope of the growing man; proof of the eternal significancy of the growing mind, with a reverence and awe such as these ancient worshipers felt as they swelled the processions, threading the vistas of the Sphynx, or the dim caverns of the Pyramid and the truncated Teocalla.

Every thought was a palpable existence in my own mind, every word symbolized a hidden meaning so profound and so vivid that the atmosphere around me became tinged with auroral tints, prefiguring unseen, eternal, and beautiful realities. I went on:

"We wake from a dream in which we have experienced the hopes, the fears, the passions, the anguish of a life; we move amid scenes and are surrounded by persons with neither of which have we had any prior acquaintance; the smile of beauty thrills the chambers of the soul; the ear vibrates with tenderness at words new to the sense; the eye reads an unknown tongue with the freedom of its vernacular; and here are persons and events stirring the living, breathing man to the center of his being, and covering a vast area in time and space, and yet the finger upon the dial has advanced but a second of time, and the heart has hardly repeated its round of pulsations. Fearfully, wonderfully are we made; we carry within us the omniscience of a God, and we know it not; we thrill to the facts which exist only because we are immortal, and yet we grope about for the proofs; we are responding to realities that are a part of the eternal hereafter, and yet, like reptiles that crawl, we refuse to read the heavens; like beasts that perish, we ignore the internal consciousness that we are immortal and eternal."

As I ceased, for I stopped, I nover knew how or why, my class responded with a deep-drawn sigh, and arose, silent and reverently, with a sweet, solemn thoughtfulness, and went out.

Never had I so exulted in the consciousness of existence; never had I so felt the affluence, the effulgence of our humanity. I could have sung aloud with delight, and embraced even my enemy with tenderness and love. I beheld a blossom by the way-side, and I stopped and gazed upon it with an admiration so new and unwonted that it thrilled me to the soul. All that I beheld responded to some great or lovely archetype.

As I entered my own door, I felt such a renewal of my first passionate love for Cora that I hastened in to clasp her in my arms, and call her by every endearing epithet. I opened the library door—no Cora there! I hastened to our chamber; it had a cold, sepulchral look that chilled me to the heart.

"Cora, dear Cora," I cried.

There was no response. At length the door from the hall opened, and Hannah, the small servant, stood before me.

"Where is Mrs. Lyford?" I asked, for no American would say "your Mistress" to a servant.

"She told me to tell you she had gone home," was the reply, and she opened her round, bright eyes, and twirled the corner of her apron, as if some doubt rested, upon her mind.

I bade her shut the doors, and take good care of the house till our return.

Oh, how the face of things had become changed! I could not understand what the absence of Cora meant, but I felt it had an ill portent. I felt as if the gorgeous world which had been opened before me were all an unreal phantasy, fading into night and darkness. The strange inner light which had so illumined my being was suddenly quenched. Doubt, distress,—limitation usurped the springs of being, and I no more drank the nectar of the gods, but fell back to my old self, the honest, prosaic Professor. I felt my head decline, and thought of my little spot of baldness!

"All this," I said mentally, "because a woman frowns. Cora is very pretty, but her caprices are troublesome."

By this time I had reached Mrs. Pyncham's door, and raised the little iron knocker, which I let fall with a slam. The house was small but neat, and the low rooms contrasted with the many elegancies and comforts with which I had surrounded Cora. I thought of this with a grim, bitter, mean spirit, unlike my real self.

The Widow Pyncham soon made her appearance, sniffling and holding up her two hands, cased in a pair of black gloves, the fingers of which had been cut off.

"Did I ever think things would come to this pas;?" she exclaimed,

"Where is Cora?"

"You've broke her heart, you have. Oh! you false, double-faced hypocrite!"

Without heeding her by no means flattering estimate of me, I opened the door of an inner room, and there was poor little Cora, curled up in a big armed chair, and crying as if her heart would break. I was angry and distressed, but the sight of her tears quite subdued me. I

lifted her slight form in my arms, and sat down with her upon my knee.

"What is the matter, my dear child; tell me what has happened."

"Now is your time, Cora, to show that you will not be put upon; nor put up with his fine notions."

"Shut up, Mother, will you?" cried Cora. But she relapsed into such a fit of crying and sobbing that I grew alarmed.

"Let me take you home, darling, and talk it all over there. Come, do not cry any more, my precious child."

At this she cried a great deal more, and pushed me away with such violence that one of the rings upon her fingers snapped asunder.

"A bad sign, Cora. The very worst sign in the world! The wedding ring, too!" And Mrs. Pyncham held up a piece in each hand, between her thumb and fingers, the points of all the rest stretched out in a sort of horror—mere brown tips from the black gloves.

"Oh dear, dear! it is all so dreadful! Somebody will write a story about me—'The Forsaken Wife,' or 'The False Husband,' or 'The Broken Ring,' or something just as dreadful; and people will come to look at me as the original, just as if I were a two-headed calf, or some monster! Oh dear, dear!" ejaculated Cora.

I laughed in spite of myself at this ridiculous speech. I kissed her, despite of her struggles to prevent me, and burst again into uncontrollable laughter; for a man is always amused more than made angry at an absurd speech from a pretty woman.

"Oh, you monster of monsters!" ejaculated the widow, lifting up both hands, with every finger distended to the utmost. "You monster, to laugh when your wife is dying brokenhearted!"

Cora lifted herself up; first shaking out her dress, and pushing back her curls; then she put a hand upon each side of my face and held me fast, and bringing her eyes quite close to mine, she flung out three words with a force and emphasis that quite confounded me.

"'Zalinka, beautiful Zalinka!' there, now!"

"It was a dream, Cora; a strange dream!"

"People dream of what is running in their heads."

"You foolish child! can we help our dreams?"

"How would you like me to wake out of a sound sleep and cry 'Frederick! adorable Frederick!"

Cora said this with an air that was quite enchanting; clasping her two hands and rolling up her eyes much in the tragedy style.

- "'Dream as much as you like, darling, but have no waking dreams."
- "Who is to know that a man has only sleeping dreams, when you were all so sly?" interposed Mrs. Pyncham.
- "Oh! do shut up, Mother; I can fight my own battles," where is my hat? George, now tell me true, honest, honor bright, who is Zalinka?"
- "A creature of my dream, Cora, nothing more."
- "Nothing more! What more do you want? I say, George, I will not go home," and she tossed the hat into the chair and burst into tears again.
- "Don't be a little footy, Cora, or I shall want to go to sleep and dream again."
- "No you won't; I'll keep an eye upon you! Yes, indeed, I'll go home, and know when next you dream."

Cora said this a little sharply, and yet she yielded to her natural sweetness so far as to smile somewhat, as she put on her hat, and picked out the bows with much care and gave the whole affair a pull and a toss, shook out her dress and pulled on her gloves, and then glanced at the looking-glass, to see if all was right.

- "Upon my word! my poor bit of a nose is quite red from crying; what shall I do, George?"
- "Drop your vail, child, and avoid tantrums in all time to come."
- "Oh, you old-fashioned, tiresome old fellow! By-by, Mother; come round and get the rose-bush I promised you, and bring round that recipe to make jelly; it's perfectly delicious, George, and I'll make some for you," and Cora kissed her mother's dry cheek, put her arm within mine, and we went home together.

CHAPTER II.

In which the Professor relates his Dream

Good Reasons for Moral Perplexity.

SHALL record my singular experience in dream-land, not knowing what may come of it, for truly my daily life is modified thereby; I being conscious of an unwonted fullness of being, and an occasion of joyfulness that I had supposed lost to me, with the loss of the early flush of youth. Indeed, I am not sure it was a dream, but rather an awakening of memory; a consciousness of a forgotten life! As this record is revived in my mind so clearly, so vividly, I find my educated and traditional conscientiousness is pricked through and through by feelings akin to remorse, when I look on the sweet face of Cora.

But here is my dream, and the question asked by me of my friend and compagnon de voyage, Rodman:

- "Do you believe in snakes? I mean, do you believe that they have a power so to transform themselves to the eye and mind of the observer that, from being revolting reptiles, they seem 'Angels of Light,' resplendently beautiful, and creatures to be caressed, admired—even worshiped?"
- "In course, I believe the varmints can bamboozle a man into liking them, but I don't know as I comprehend all them gay and festive words of yourn."
- "I was thinking, Rodman, of what happened to me not far from where we now are, something like forty years ago. I was a younger man then," and I knocked the ashes from my pipe with a sigh.
- "Never make a period with a sigh, man. You are young enough now, and handsome enough, as to that."
- "Well, well; I never thought to come back here again. Strange things happen in the world. Least of all, Rodman, did I ever expect to see you again, old boy."
- "Worse things might come to you than that; we've had many a pooty hunt together, and I shouldn't mind, George, having you roll me in my last blanket. But you had a story to tell; out with it, for when a man's seen two generations 'tisn't cheery to look behind him. The old trail is always a melancholy one."

Rodman replenished the camp fire, and I my pipe, and seeing the stars clear and the woods silent, for there was no wind, nothing but the sound of the distant falls, I threw myself upon the ground, fragrant with pine boughs, and we talked till the stars began to pale in the cast.

THE STORY.

- "We were encamped, as now, upon the Gila, a party of young men, all from good families, gay, careless boys, who were wild for adventure, fresh from our studies, and heartily sick of the dull routine of civilized life.
- "You must know I have a peculiar mark upon the breast; you shall see it—it is not always red as now, but generally a pale shade of pink."
- "Were you born with that mark, George?" asked Rodman, gravely.
 - "Certainly; why do you ask?"
- "Because, man, you are not, to my mind, what you ought to be, with a mark like that upon your flesh. It seems like God's sign for you to work for him."

"That is true, Rodman; I am not what I ought to be, nor what my mother used to hope I might be. I remember how tenderly she used to kiss my 'little cross.'"

"Mothers enymost pitch their children into heaven by praying for them. But go on."

"Well, this little mark is red, as you now see it, always before some event of importance transpires; its redness betokens danger, distress, or joy—triumph. I anticipate something decisive and noteworthy impending over me, whenever my little cross is suffused with color.

"I had left my companions higher up the stream, for I grew tired of their noisy mirth, and, with my gun over my arm, leaped a hideous earthquake ercvasse, and descended the stream to the foot of the falls. I leaned my back against that huge sycamore yonder, and fell into a reverie engendered by the softness of the atmosphere and the loneliness of the spot. I must have slept, and it was a long time before I became assured, in my own mind, whether what transpired was not all of it a dream. I heard the most delicious music that ever ravished human ear-silvery bells chiming; cool, delicious waterdrops falling in musical cadence; soft and dreamy, stealing the breath, came the sounds over the senses.

"I beheld a young girl, half Astec, it seemed, and half Spanish; one of those phantoms of beauty to be found only in this delightful region, dancing one of those peculiar dances which have that grace and swimmingness of movement akin to the undulations of the sea. With rounded arms gently raised, now above her head, and now curved nearly to her feet, bending, waving her pretty head and lovely shoulders, she seemed in an ecstacy of enjoyment. I rubbed my eyes; I gazed in wonder not unmingled with fear as the dance went on, for, strange to say, her companion in the dance was a huge, hideous rattlesnake. I dared not move or speak. I doubted if both were not snakes, and again I doubted if either were a snake-if both were not girls of the sunny South, stealing away the soul by their grace and beauty.

"I had thrown my sombrero upon the turf, and my breast was bare to the slight wind that stole down the ravine. I must have moved, for all of a sudden the serpent darted forward and buried his fangs here, just above the pap and below the cross. I saw the girl strike the monster down with her small hand, and I felt a pair of cool lips encircling the wound. I knew no more. I was gone to that oblivion fearful to consider, devoid of all thought, sense, motion.

"Slowly, dreamily, a half consciousness re-

turned, so sweet, so delicious, that I seemed truly lapped in Elysium."

Here I was interrupted by Rodman, who took his pipe from his mouth, and rolled his eyes gravely to mine, without stirring his neck in the least.

"You must have had a pooty considerable a time of it, George, but suppose you drop the high-fe-luting and stick to the main facts."

Thus admonished, I went on: "I now beheld a group of those slips, delicate natives, the relics of the old Indian population, so ruthlessly slaughtered by Cortes and his followers, who were busily employed in making a circular excavation in the light soil, under the direction of the beautiful girl I had before seen. Having sunk this to a considerable depth, they brought forward an immense cauldron of terra cotta, and settled it firmly into the hole. Into this was cast aromatic oils, and splits of wood.

"At a motion of the girl, who approached the cauldron with a stern face, I observed she was followed by the huge rattlesnake which had performed his part in the dance with her. She lifted up a silver wand, tipped with opal stone, and pointed to the cauldron. There was a look from the serpent of almost human deprecation; but she was unrelenting, and the creature lifted himself upward, fold above fold, and slid within its depths. Instantly there was a crash of angry rattles, a rush as of a strata of wind, and another of the same species, and its mate, swelled the burden of the cauldron. One of the natives flung a burning touch within, and a pyramid of pure flame ascended from the midst. I saw the two writhe and whirl in rapid gyrations lift themselves in a tall column from the center, and then were lost amid the flerce burning of the oils and aromatic woods. The natives joined hands in a dance; but the girl stood unmoved, bearing her silver wand aloft; and again all was silent, and I, unconscious of all but a delicious sense of repose."

"It may be you hanker after that kind of woman life!" retorted Rodman. "What happened after this?"

"I felt myself lifted upward and borne along at a slow pace. I tried to open my eyes, tried to speak, but in vain. I heard a low dirge chanted in the distance, and believed that my own burial was at hand. Could it be that I was to be consigned a living, breathing victim to the earth by these ignorant barbarians? I could not move hand nor foot. Horrible visions flitted through my brain. Dismal yells and flery corn-cations filled me with dismay. I saw shapes

bending over me, every one of whom seemed compounded of elemental flame, and who, pointing to their breasts, showed a word written thereon which I strove frantically to decipher, but in vain.

"The dirge grew more loud and solemn, the air was heavy, damp, and confined. I now become conscious that the procession was threading the interior of a vast temple or pyramid, the stony chambers of which were filled with gigantic columns and statuary representing the ancient Aztec divinities. With difficult feet my bearers ascended the innumerable steps leading to the truncated apex of this vast Teocalla, and I felt the heavy breathing of the men, weary with their burden. The chant died away in the sepulchral chambers, and then the turn of an angle brought the melancholy sound in full diapason to the ear.

"Reaching the area above, the cool midnight air stole through a latticed chamber, and the dim stars glowed like burning gems from the blue empyrean. I no longer struggled with my fate. I was unable to move, but I felt neither dread nor suffering, nothing but a soft languor and sense of repose. I saw through my closed lids.

"Looking upward I beheld an immense cross rising in the pale light, solemn as the night of the Crucifixion. It was composed of stone, elaborately carved, and covered with hieroglyphics. At the base was the hollow Sacrificial Stone, over which swept masses of fine cotton, which trailed upon the floor, and was decorated with flowers. Priests were swinging censers of incense, and I saw in the distance a large obsidian mallet, which one of their number swung to and fro, as if eager to try its weight upon my brain.

"I felt myself lifted upward and laid upon the Stone of Sacrifice. Low sobs were audible, and the same lovely girl I had before seen kneit down beside me. The High Priest laid his hand upon her shoulder and said:

"'Is it well, Zalinka?'

"'It is well, my father.' Then she arose and flung herself at his feet and cried, imploringly, 'Give him to me for this night only. Leave me, my father, for I saved him once; and then I bow to the gods.'

"'So be it, my daughter;' and, waving his hand, the conclave departed.

"Then Zalinka, kneeling beside me, raised the white folds from my breast, and gazed upon my little cross with a weird, sad face. She receded from my side and looked up at the stony cross towering above us, and sighed heavily, "'I will save him! He shall not die! she murmured.

"Again she approached me; she laid her cool, beautiful cheek to mine, she placed her lovely arms around my neck and whispered, tenderly, passionately, words in a language hitherto incomprehensible, but now known and familiar to me. Suddenly she arose and pushed a stone, which moved in its silent groove, and the side of the cross revealed a subterranean passage, descending into the interior of the structure. Then it seemed as if a weight were removed from my senses, and I sprang to my feet, crying, "Zalinka, beautiful Zalinka."

It appears these words were audibly spoken, as my vision receded, and caused Cora no little irritation.

CHAPTER III.

SISTER ELECTA—OPINIONS OF A SHAKER—CORA
—A PRETTY ONE TALES.

In this veritable story which I am recording, I shall permit the Professor to relate his portion of it in his own way, reserving to myself the historian's privilege of filling up the details as events may transpire.

Sister Electa, who was now an inmate in the family of the Professor, had sought him many years before the opening of our story, and in a few simple words explained that she wished to place herself under his tutelage for the sake of acquiring that knowledge which had been denied her under the austere rule of the Community. The bachelor student at first was greatly embarrassed at this proposition, coming from a staid, handsome girl, whose nun-like aspect presented no little attractions to a man so simplehearted, studious, and unworldly as our good Professor; but the straight-forward, matter-offact way in which the young Electa made her wants known, not only assured him, but totally blinded his eyes to the many attractions which concentered themselves under her uncouth dress and simple manners.

She was hungering and thirsting for knowledge; she had no vestige of the vanity and the coquetry supposed to be inherent in the sex, and once admitted to the storehouse of ideas, she bent her large spiritual eyes over the book and lost all consciousness of the presence of her teacher, who felt a pride in seeing that she kept up with the class of students in the College, and went beyond most of them in clearness and thoroughness of comprehension.

At intervals she returned to the Shaker Com-

munity, remaining with them through the long vacations of the College, and returning to her studies again with renewed zest and enthusiasm. Thus years passed away in a sort of dreamy content, both teacher and pupil feeling the need of each other; both feeling a gentle roundness of life by this pure companionship, but neither breast stirred by any deeper, dangerous, or more absorbing passion for the other. It was a beautiful friendship, such as can exist between the sexes only when the pursuits of the two are intellectual.

It was after one of these seclusions that Electa returned to find her friend a married man. The heart of the fair student certainly contracted with a pang at this, for marriage occupies no place in the Shaker vocabulary; and everywhere marriage is a sort of domestic earthquake, tearing asunder cherished relations, and burying under a lava-tide much that had hitherto been of lovely seeming in the experience of the parties.

But whatever might have been the thoughts or emotions of Electa, the Professor never once thought that his beloved pupil would feel aught but delight in the augmented happiness of her friend, and he hastened to bring the two women together with an almost childish delight. Fortunately, the instincts and intuitions of the Professor were of that genial, wholesome kind that only persons somewhat akin in character were drawn into the sphere of intimacy with him, and the young wife and favorite pupil became at once attached friends.

Sister Electa was domesticated in the family, and this new experience of the Professor which, as we have seen, left poor little Cora ill at ease, and rendered the presence of a wise, discriminating friend exceedingly grateful to her. Cora was so pretty, so child-like, and petulant, that she kept all about her in a perpetual and not unharmonious ferment. The Professor was certainly greatly hindered in his pursuits by her exactions, but he bore it patiently, and submitted to her whims with a gentle docility quite touching to witness.

Not long after the Professor commenced dreaming, Cora, who had followed his retreating figure with a serious face and wistful eyes, arose and walked up and down the room with a perfectly wo-begone air. It was as painful to see her distressed, as it is to see the unnatural thoughtfulness of a young child. She was perplexed and troubled, without clearly understanding whether she had reason for so being. She felt as if something had been lost to her, but could not tell what it was.

Suddenly, she turned to Sister Electa, who sat at her needle, and exclaimed:

- "Sister Electa, you have never told me why you left the Shakers. Tell me all about it. I wish I could go and join them."
- "Thee is a foolish child, Cora. Thee does not know what will please thee."
- "I know all that—I know I am bad, and weak; don't fret me," and her delicate chin quivered. "Tell me why you came away; there's a dear."
 - "Why did the raven leave the Ark?"
 - "It was sent forth."
 - "Did the raven ever go back, Cora?"
 - "No, surely; why should it have gone back?"
 - "It has been a bird of ill omen ever since."
 - "But the dear, loving dove returned."
- "Yes, when the great, overwhelming deluge had passed over him. Thee will learn, Cora, that in this life, unless we are dwarfed in soul, and can find no more significance in our being, that we must go out, or be driven out of our strongholds."
- "Oh dear, dear! I do not understand onehalf that you and the Professor talk about. It puzzles me and tires me, and is of no use. But you are the happiest woman in the world, Sister Electa."
 - "Why does thee think so?"
- "Because you have your own way, and were not obliged to be married."
- "The first is doubtful; God does not permit his creatures to follow out their own desires in this world. Nothing but disorder would ensue; and as to the last, my sect renounce the world, and do not marry."
- "I wish my mother had sent me to the Shakers when I was a baby," and she snipped off the thread of her embroidery, as if it were of equal importance with the subject under discussion.
- "But, surely, thee loves the good Professor, Cora?"
- "Oh yes, I suppose so; good old boy! But my mother picked him out for me, and now quarrels with him, and makes me behave badly. I am sure I torment him, and do not mean to do so."
 - "Thee is very unreasonable, child."
- "There now, Sister Electa, every body can see that; so do not talk about it. My mother used to tell me I was ugly, and must get married early."
- "She did thee a wrong, Cora; for thee is very pretty."
- "So George tells me;" she did not call him Professor this time, but tossed her head com-

placently. "You despise my mother; I see you do."

"I think her a very worldly, selfish woman; but it is not right to discuss her to thee, Cora."

"My mother worldly! why she is very religious—goes to church every Sunday, and every Thursday evening, and never laughs on Fast days." Cora twisted her mouth almost in the shape of the scallop she was turning, as she made this remark.

"Thee married George from choice; did thee not, Cora?"

"Oh! to be sure I did; he is so young, and so old, and so good, and so wise, and so patient with poor little me; how can I help loving him? But Mamma says there is no need of loving your husband; she says she did not much love my father. Poor, dear Papa! He was so kind, and tried so hard to please her. I heard him say once there was nothing in this world so uncertain as a woman's temper, and I believe him; I think we are hateful."

"I hope thee's mother was kind in return to so good a man, Cora. I am not quite sure that we ought to be talking in this way."

"Oh, nobody can resist you, Sister Electa. Somehow it is a sort of relief to tell you every thing. I feel so fresh and happy when I have let out all the bad in me. But I am not quite right with George, though I shall not tell you about it yet. Oh, it is a great, terrible secret?"

"If it concerns thee's husband, Cora, thee ought not to tell it. It is his secret as well as yours, and must be held sacred."

"I know all that tiresome kind of wisdom, Sister Electa; I have a great many thoughts that are not clear to me, and they make me very unhappy."

"Thee should write them out; write and read them, and think, think, till thee's mind is clear."

"That would make me a literary woman, and I despise the very thought, even if I had wit—no, mind enough to be one."

"I do not see why thee should despise them."

"George said the other day, a woman ought to let her husband do all the thinking for her, and I am sure that is a nice, easy way. He says, to see a woman's name in the papers and on boards and fences, is a perfect scandal."

"I do not see how that is to harm her, if she is associated with what is good and noble."

"I do not think I shall ever think any thing worth printing, and so I tell all my thoughts to George; and you should see him laugh sometimes. One day I told him I wished I was Eve, in the Garden of Eden. And he replied:

"I would not object, provided I could be Adam."

The Professor had entered as Cora said this, and he leaned over her chair, playing tenderly with the ringlets of the pretty head.

"But I do not think I should love Adam," retorted the capricious beauty.

"What was there else for Eve to love?"

"God, and the angels. Adam was not much of a man; my Adam would not have touched my apple; and he would not have loved me any the less because I wanted to be wise." Cora looked up to the face of her husband with a pretty, girlish blush as she said this.

"I have sometimes thought," mused the Professor with an abstracted air, "that it might be a subject of curious interest, could we collect the first utterances of persons as they first awake from sleep to consciousness. We listen with interest, and repeat as oracles the last words of those who close their eyes to their last sublunary slumber, and I doubt not many a mystic oracle has found expression as we emerge from the shadow-land of sleep."

Cora's face assumed an expression at first grave, and then painful, and she whispered:

"Have a care, George!"

He did not seem to observe her, but stooped down and kissed one of her curls, and went on with the same abstracted look:

"I think, to dream well, a person must be in health, and Eden-young in character. I think a person of ordinary talents may have genius in sleep; just as the poet is not alwas on the mount of inspiration, but has his moments of divine afflatus, akin to the wonderful visions of the dreamer. I never close my eyes without a sense of costatic joy."

"I'll put my head close to yours, George, and take your dream; I am sure you have no right to dream in the way you do."

"It does no harm, my darling little wife, that I dream; indeed, I wish she could go along with me, and see the beautiful countries through which I pass, and realize the proximity of thousands of years ago to-day, only I fear it might make her beautiful little head ache."

He had seated himself upon the sofa beside her, and with a tender playfulness clasped and unclasped the bracelet upon her arm; while she looked eagerly, and not a little anxiously into his serene, manly face. It was a pretty picture, the two thus seated.

CHAPTER IV.

THE PROFESSOR DREAMS AND BEGINS WHERE HE LEFT OFF IN HIS FORMER VISION. HE RATHER LIKES HIS DOUBLE LIFE.

THE Professor had no control over his resuming visions—they came in spite of himself. In spite of his volition, he found himself reviving like an inner consciousness—a vast, sensuous experience amid the gorgeous luxuriance of tropical life; moving amid the stupendous structures which in our day baffle the scrutiny of the antiquarian, and participating in a worship repugnant to the progressive ideas of a more spiritualized creed. He was happy in the routine of his daily avocations so well adapted to his quiet, scholarly tastes, and yet he renewed again and again the thrilling emotions of his dream experience, as if as sured through it of a double existence-a life in to-day, and a revived reminiscence of a foregone, broader, more subtle, but less intellectual being. He thus writes:

"The back of the head is the storehouse of memory. How fearful it would be if the whole experience of a past one could be unfolded like a written book before us! I was talking with Cora, and my wondrous pupil, Electa, when all at once, the carpeted room, and the sweet faces of modern womanhood were shut out from my range of vision, and the luxuriant vegetation of the tropics arose to view, and I was relating my story to my friend Rodman, the hunter, who belongs to still another experience, and an experience foreign to the days and the years which I have known since a muling child I sat upon my nurse's knee in this present State of Maine. Rodman was looking into my face with a puzzled expression, and asked:

- "Are you often taken in this way?"
- "I do not understand you."
- "You fell away to sleep mighty easy, and I thought you might as well have it out, so I threw on some stuff to make a blaze to keep these confounded mosquitoes off. Better now?"
- "Better! I haven't been bad; never was better in my life. Let me see, where was I when you interrupted me?"

I did not like the sharp, incredulous look of Rodman, as he held his pipe a half-yard from his mouth and blew the smoke out slowly from between his lips. Placing it leisurely in his mouth, he drew a whiff or two before he answered:

"You wer' tellin' about that gal, Zalinka. Pooty girl, with a softish kind of a heart."

"Oh! yes, I remember; my senses were suddenly restored to me, and I sprang to my feet, crying, 'Zalinka, beautiful Zalinka!' She placed her finger upon her lip, in token of silence, and taking my hand in hers approached the entrance to the passage thus opened within the figure of the gigantic cross. I looked upward and beheld the beautiful constellation of the Southern Cross in the sky, the archetype of the image which stood vast and mysterious, topping the solitary splendors of this ancient cone-like structure wherein man has expressed his crude sentiment of worship. My bosom was bared to the breezeand Zalinka pointed with her finger to the sign of the cross thereon and then lifted her eyes reverently to the towering symbol above us, and onward to the starry, symbolic constellation in the heavens.

"'I also have the stigmata of one form, the earliest idea of worship,' whispered Zalinka, and loosening the white robe from her smooth delicate shoulder, I saw thereon the faint outline of a serpent, like a ruby stain.

"Zalinka suddenly stooped and listened, and her face grew deadly pale—I too listened, and up from the chambers below swelled the hymns of the priests as they ascended slowly the long stone steps leading to the tower of sacrifice. She wept, or rather tears fell from her eyes, and she stooped down the stair-case and sang in a low, plaintive voice a response to the hymn:

"Take the life-blood, O Life-Giver!
Back to thee the fount we send;
Open wide the starry vistas,
Let the approving gods descend.
Mystic Serpent! mystic Cross!
Fount of life, to life returning—
Whet the knife, the bosom bare,
High the altar-flame is burning.

"She sang the last words in a shrill, ecstatic voice, and immediately applied a torch to the altar-pile. Her action had the effect of delaying the approach of the hierarchy, and for one moment the flame revealed to me the whole vast area surrounding the temple filled with a sea of upturned faces; far as the eye could reach was a vast multitude of worshipers, who, as the flame towered to heaven, as by one movement prostrated themselves upon the earth. I should have been in bold relief upon the stone tower with its pyramid of flame, raised hundreds of feet above the heads of the mass below, had not Zalinka pushed me within the doorway to the cross, as I before said.

"Calm as death stood Zalinka, with her arms raised aloft, and her long hair falling like a vail about her. She approached the verge of the parapet—the sides of the pyramid faced the cardinal points—she turned to the west; she knelt down; she tore a girdle studded with gems from her waist and held it aloft; she severed a lock from her hair and cast it to the western winds. A shout arose from the multitude as they saw the beautiful token borne upward—upward over the city, away in the dim distance, till it was lost to the eye.

"'Quick! quick!' cried Zalinka, 'push the altar-stone of sacrifice! Oh! ye everlasting gods, pity thy child!'

"I did as she bade me, she lending her eager hand to the work. It had been placed upon rollers and the vast structure of stone now slid easily along its groove, and with a sharp, vibrating clang settled over the aperture of the staircase leading to the altar.

"A great cry—a voice of wonder, dismay, execration, swelling to a howl, arose from the multitude beneath, for the clo ing up of the temple was an omen of evil, and betokened that the gods had left the sanctuary and the priestess was dead upon the altar. Slowly faded the lurid flames, and at length night and silence settled over the deserted temple.

"'Now, follow, speak not, and beware that you stumble not, for the way is long and dark.'

"I took her hand, and would have clasped the jeweled wrist, but she shook mine from its hold and moved onward."

"A well-behaved, modest young woman in my opinion; though the way in which she cheated the dusky varmints lookin' up to her, might be a caution to a discreet man, I am thinkin'."

"It was a part of her religion, Rodman. She was trained to it."

"They thought she staid up there and died, or was borne bodily to them sunshiney places and mooney islands, where they supposed men and women would be eternally eatin' buffalo, and drinkin' blood out of the skulls of their enemies! eh?"

"Of course, they knew of no way for her escape, that being a secret of the priesthood."

"To my mind, a set of cheatin' scoundrels, who'll be eternally roasted in the fire and brimstone they are so fond of tellin' shout." And Rodman shook the ashes out of his pipe, and put in a new stock of tobacco with his thumb. "And so for ever after, them stairs was thought to lead to nothing, and grew to be a wonder," he continued.

"I have no doubt they will, unless I live long

enough to tell the story. Zalinka bent down her ear to a small opening in the structure, and said sorrowfully:

"'It is my father! He calls for his child! come!"

"By this time we had entered within the stone cross, and with my help we swung together the two doors closing the entrance. I thought the clang would never cease its vibrations along the interminable vaults. Zalinka still lead me on in total darkness and utter silence, except that she gave me the signal of descent by means of broad, shallow steps, which I was aware led to the top of the Teocalla. Our way was necessarily slow and labored, yet I had such confidence in my beautiful guide that I had no fear.

"Threading our way through these sepulchral chambers the air become heavy and damp, and a giddiness seized me.

"'A little longer and we are safe,' whispered the young priestess, and she pressed onward. Turning a sharp angle, the passage became so narrow that I felt my way along the wall, and presently the cool air came refreshingly to my brain, and we were in one of the minor corridors of the structure, long and narrow, and intersected by others leading to various parts of the temple.

"Leaving this we emerged upon a stone balcony overlooking the river, and far above the base of the pyramid. The loveliness of the scene, the cool flow of the water, the aroma of sweet tropical plants, stealing through vistas of the palm tree, the plantain and mahogany with its deep foliage; the screams of parrots and monkeys, startled by some wild beast or stealthy serpent from their slumbers, rendered the aspect of nature at once solemn and beautiful.

"From our position in the shadow of the dark walls we could see and hear the slightest movement upon the river, ourselves hidden from observation. Zalinka had thrown a mantle of ample size over her shoulders, which ontirely concealed her person, but her large, lustrous eyes outshone in splendor the bright stars to which they were raised. She did not heed my presence, nor turn her fair face one moment to mine.

"'Will they seek thee, Zalinka?" I inquired.

"'Yes; even now I hear the dip of their oars descending the river.'

"'O Zalinka, what fate awaits thee?" and I drew the cold hand to my breast as I spoke.

"She turned her eyes slowly to mine, and the white lips whispered:

"'Only death!"

"At this moment the notes of many voices singing in unison grew more and more distinct, and I could distinguish the words:

"Slow wanes the night;
Ere morning light
Thy sacred face shall see
Our pearl so rare,
Our blossom fair,
An offering unto Thee.
Bright dwellers of the sky
Look down with pitying eye.

"O Virgin Bride,
So true and tried,
Soorn not the gift we bring;
Fling open wide
Thy gates beside,
Let music outward ring.
Her virgin feet must tread
The pathway of the dead.

"As the hymn in slow measured cadence approached, Zalinka instinctively drew nearer to my side, and grasped my wrist convulsively. We gazed from our position upon the river as the boats drew nearer. There were twelve boats, each bearing the priests of the temple, in their white sacerdotal robes, with hands folded upon their breasts, and faces of a stony calmness. One by one they disappeared under the subterraneous channel constructed beneath the foundations of the Teocalla. Nearer, nearer grew the voices, and we knew they were ascending the steps which led to the chambers above. Nearer, nearer, and the sweeping of their long robes, and the measured tread of their sandaled feet were plainly to be heard in the corridor from which we had emerged. Nearer, nearer, and it seemed to me that I felt the breath of the cold, ghastly band, as I could distinctly hear their labored breathing as they toiled along the fatiguing pathway, preceded by a band of beautiful maidens wreathed with flowers, and each bearing a torch in her hand, these last evidently brought from the recesses below. The lurid light of the flambeaux glared in upon us, lighting the river below, lighting the vivid coloring of the huge statues along the wall, showing the gorgeous blue and gold and crimson of the stuccoed recesses beyond, and, more appalling still, falling upon the cold, dead face of Zalinka, who had fainted in my arms.

"Each face as it passed seemed to glare upon the two wretched beings shuddering beneath the wall; every ray of light seemed searching, groping, and prying in subtile malignity, as if already exulting in our detection. A bat, startled by the light, flapped his filmy wing against my face, and a nocturnal bird from the top of a neighboring tower gave utterance to one of those unearthly cries that so often electrify the stranger in trepical regions. Would they never go by! I counted, counted, and grew weary at the task; the dirge-like tones even now come back to my nerves with that old horror, which had welded itself into my very being."

"You needn't worry yourself to bring it back, George, I see you had a narrow squeak of it. I've watched a painter, ready to spring on me, and the time seemed mighty long, and I ready to pull trigger; but it's sort of weakening to recall such things."

"At length the last white robe appeared, fluttered in the draft of air from the balcony, trailed a moment over the pavement, and then was gone, as the owner turned the angle and ascended the steps so lately trod by Zalinka and me.

"'Awake, awake, Zalinka!' I whispered, 'the danger is past."

"She slowly lifted her eyes, and for a moment was bewildered and unable to collect her thoughts, then, quick as thought, she pushed aside a curtain in the wall and motioned me to follow. We descended again the stone parapet, emerging at intervals to the external wall, and then planging again into damp, sepulchral chambers, silent as death.

"The faint light of morning began to glow ruby in the east, and the many voices of nature, responsive to the advent, filled the air with music of bird and insect, when we at length stopped in a room so delicate and yet so richly fashioned that my eyes were dazzled with its sumptuous furnishing. In the center was a silver vase from which issued the spray of a fountain whose waters fell into a basin of porphyry inlaid with gems. Niches filled with costly vases and rare flowers, and the walls covered in hieroglyphics, which I knew were choice words from the poets, and sacred religious oracles. Pure lilies were sculptured around images of a fair, serene face, grave and beautiful in matronly dignity. Cushions covered with the skins of humming birds, and curtains composed of feathers, floated from the ceiling and formed magnificent canopies over sofas whose frame, work was of massive silver.

"Sweeping aside a feathery curtain, an alcove formed in blue with silver stars was revealed, and a couch draped with snowy coverings.

"'Here you are safe; here none will intrude. Sleep in peace.'

"' And you, Zalinka?'

"'The danger is past for the present."

"She knelt down and clasped to her bosom the blossom of a plant which stood within the spray of the fountain, and with eyes whose intensity was overpowering, looked off into the void above, as if there she beheld what was invisible to other eyes, her lips repeating:

"Fair and beautiful is earth;
Fairer realms, to eye unseen
Serpent, scorned in thy birth,
Lo! the Cross shall intervene.
Oh! blossom, fairest that the sun
Bends his glorious orb upon."

"And she held to her bosom the blossom of the Espiritu sanctu—that strange, beautiful blossom whose petals inclose the shape of a dove.

"Suddenly a multitude of small white doves appeared, and with soft cooings floated around her; some lighted upon her head, others on her delicate shoulder, while others dipped their crimson feet and ruby bills in the spray of the fcuntain. Zalinka moved nor eye, nor hand, till one alighted upon her fingers and kissed her red lips, then she arose, and with a bright smile exclaimed:

"'Oh, ye everlasting gods! I tremble before ye! I accept the augury, nevertheless. Life or death, darkness or light, joy or sorrow, I accept it all,' and she threw herself prostrate upon the earth. Rising at length, she whispered:

"'Sleep, O beloved Teomax! the divine mother accepts thee!"

"I hope you told her your true name, George. A man may cheat a man who is expected to have wit and deviltry enough to take care of himself, but it's a sneaking trick to cheat a woman, it is."

The Dangers of Blistering.

BY DR. DAUVERGNE, PERE.

[Translated from the Original French.]

TOTE.—[As a general thing, blisters have been popular with the people, and their use among medical men, especially in the country, is very common. A majority of invalids submit to their application on themselves and their children, not only without thought of any danger, but with a belief that they are perfectly harmless. The cruelty practiced on children by their use is monstrous. We publish the following paper, translated from the French, with the belief that if non-professional people were better informed on some of the most common abuses of medical practice, physicians would make greater efforts to obtain better methods of treating their patients. Let the people have light on these topics, and abuses will soon disappear. They have driven blood-letting into the background, now let them drive blistering there, too .- Ed. H. of H.]

It was in 1835, after treating two patients with inflammation of the lungs ineffectually with large blisters, that I renounced that treatment, for I had perfectly satisfied myself: 1. That blisters in no way diminish the duration of the

disease; 2. That they increase the febrile excitement, i. e. the general heat and the rapidity of circulation; 3. That they are a real misery to the patient, aggravated by the slightest movement, and especially at each dressing; 4. That each dressing involves danger, because it is necessary to uncover the chest, which momentarily checks the cutaneous transpiration, sacrificing the effects of a natural general revulsion for the sake of a limited and artificial one; 5. Finally, I perceived that a fresh inflammation developed near an inflamed part is more likely to aggravate than to divert the disease from the latter.

I observed also, at the same time, that ordinary pneumonia (lung fever), was neither mitigated nor diverted, since stethoscopic examination on the day following the application of the blisters revealed no modification of the physical signs, and the fever itself was really increased, just as if the blisters had never been applied.

What then is the good, I asked myself, of a treatment which does not diminish the local symptoms, which aggravates the general phenomena, which tortures the patients, and is

likely to aggravate and almost always to prolong the disease by the mischief done in the necessary exposure of dressings, etc., etc.? I renounced the practice at once, and as I have never found any harm I have continued to dispense with it. But although I have given it up, many practitioners, especially country doctors, have not done so, for very often I find myself in absolute opposition with them on this point, and I am therefore now compelled to justify my practice, and to ask them for an explanation of theirs.

For my part, before employing a remeay which is painful, inconvenient, and disagreeable from the odor of suppuration, I should need to be well assured that it either diminishes the extent or arrests the progress of the disease. But I know of no one who has first demonstrated by stethoscopy the degree and extent of a pneumonia, and then, after blistering, has proved the diminution either of the extent or the intensity of the inflammation. Galen applied blisters because Asclepiades, Archigenes, Ætius, and Cælius Aurelianus had applied them. Cullen proclaimed them because Sydenham and Freind had eulogized them. Finally, which is the strangest and saddest thing, the popular as well as the medical furore for blistering has gone on increasing till we all fancy ourselves compelled to apply blisters. And all this when no one has given us any reason!

I will quote a few cases: 1. The first was that of a child of three years, affected with acute pleurisy and effusion, who after the application of a blister, proposed by the doctor and agreed to with transports of joy by the friends, experienced an increase of the effusion and of the fever, which became uncontrollable. The child sank, either from the artificial inflammation, or from the loss of valuable time.

2. The next case was that of a young man with typhoid fever. A colleague suggested blisters to the legs. It was in vain that I reminded him that, in reference even to idiopathic brain affections, Rochoux, so competent an authority, had said before the whole Academy that they were more harmful than useful, seeing that the pain they caused, far from removing the cerebral suffering or irritation, incressed it, because it was the brain alone which perceived the pain produced in the legs. All these arguments paled before the enthusiasm of the surrounders, and the blisters were applied. And they did take, so effectually that when the young man had got quite well he was kept in bed by gangrenous wounds, which the cantharides plasters had caused.

Such facts fail to undeceive any practitioner

"of robust faith," as Forget calls it, or the public which is victimized by it. The patient is always enchanted with remedies that produce a palpable effect which he sees with his eyes, and judges with his senses.

3. This spring I went to visit a child at its nurse's house, but could not find it. I called out; a boy of six or seven years came from a cabinet, walking slowly, gravely, like a little old man. He was pale, puffy, with bent head, his neck enveloped up to the ears in a handkerchief, and as stiff as if it had been screwed into an iron collar. "You have a blister on the nape of your neck?" I asked. "Yes." "You are ill?" "No." "Why, then, the blister?" "Oh," said he, with a little air of whimsical pride at being submitted to such a medication, "they put them on my arms, too," (touching each of his limbs, with a comic gesture, perhaps some ten times); "when one is done with they put on another." "And now that there is no more room on the arms, the neck has its turn? Do you cough?" "No." "You have headache?" "No." "You have nothing the matter with your eyes; why do they put so many blisters on you, then? Have you a little gland in the neck?" "Oh yes, but it only came lately." "Who is the doctor, then, who prescribed all this for you?" "We never see a doctor; my mother puts on the blisters, and the pharmacien gives me cod-liver oil."

The strange thing is, that many doctors would think themselves helpless if they had no more blisters; for one of them, assuredly in good faith, asked me naively, "But what can we do then?' I had the opportunity of showing him what to do in the case of one of his patients, the first sight of whom profoundly saddened me. It was a child of four years, confined to bed for the last two months with bronchitis, which had been constantly, successively, and solely treated by blisters on the arms and round the chest. One or two were always kept suppurating. The little patient was like a mummy; the emaciation was so great that the dental arches protruded as in a monkey's face, or a skeleton, so thin were the lips, and so very large the mouth. The eyes were deeply hollowed, and the cheeks stretched over the malar bones. The child was lying with head bent, hanging by its own weight, so incapable was the wasted neck of sustaining it. But when I was going to take his arm to feel the pulse, he sprang up like a lion, open-mouthed, to bite my hand. "What is that for?" I asked the mother. "Ah, sir," said she, "he thought you were going to dress his blisters. He always does that when we go

to dress them, and we are obliged to hold him." What could be done in the condition of this poor martyr? The blisters had not removed his cough, his pulse was small and rapid, his skin dry, hot, almost like parchment. I did not hesitate to advise tepid whole-baths in bran water to calm the pain of the blisters, and moisten the skin a little. I ordered demulcent drinks and milk (first diluted and then pure), to diminish the fever and the bronchial inflammation. This treatment gave immediate relief, and ultimately cured the patient.

Do you want facts that speak more loudly? Must you have plainer proofs of the uselessness the abuse, the dangers. the tortures of these blisters? Is not this pure practice, and that of the worst kind?

On what is blistering founded? Upon an idea of revulsion.* And the physicians who employ it pretend to repudiate theory! Must we for ever repeat, that practice can only be the result of a preliminary idea which inspires it? Well, this idea of revulsion, on what is it based? On this aphorism of Hippocrates: Duobus doloribus simul obortis vehementior obscurat alterum. Yes, but in the first place pains are not inflammations, nor even congestions, and to obscure or to mask a thing is not to divert or to destroy it. Yes, the old man of Cos was right when he said that a stronger pain can mask a weaker; but he was talking of a phenomenon of sensation. If a violent tootbache comes after a rheumatism, it will make one forget the latter. It is very common for a mental pre-occupation, caused by pecuniary loss, to be quite effaced by the loss of a child or a beloved wife. It is known that a neuralgia or a neurosis may be cured by a strong emotion, or by a lengthened pre-occupation of mind. For instance, Barras forgot, and was cured of his gastralgia in the grief of seeing his daughter fall ill and die of phthisis. It is in this way that the cures of the bonesetters, the sorcerers, are to be explained.

Moreover, the aphorism of Hippocrates, on which the whole theory of revulsion is founded, could not be applicable to an inflammation artificially set up, even at a distant point, because the two inflamed parts are connected by the medium of the circulation, which is excited in direct proportion to the number and extent of these inflammations. Do we not see and know constantly, that an affection, an inflammation is by so much the graver when it is complicated with another? But what are the wounds of

blisters but little inflammations, nay, often serious inflammations?

A fortiori, if we create inflammations near to disease, not only is there the chance of failing to divert the latter, we run the risk of imitating, as one of my most illustrious teachers, Richerand, often said, a blind man armed with a stick, who should strike sometimes the disease, and sometimes the patient.

I have never understood the theory, and consequently have never employed or consented to the practice of applying blisters to the head in cerebral inflammation. In the first place, I have never seen any but disastrous results from the treatment; and, secondly, it is the height of illogicality to make an ulceration—an inflammation—on the scalp when there is already an inflammation of the brain, and perhaps of the membranes; although in the case of erysipelatous inflammation of the scalp we so dread lest the cutaneous inflammation should extend to the membranes, or to the brain itself.

Let us quote Velpeau himself: "The action of blisters is limited to hastening and deciding a suppuration * or a resolution which was previously uncertain, when one applies them at the prominent point of indurated masses.

It is going a long way to accord to blisters two actions at once which are entirely opposed to each other, and, notwithstanding the respect which I retain for this great surgeon, I can only see here a physiological contradiction; and in any case it would remain to prove from practice whether blisters do not more readily produce suppuration than resolution of inflammations. That is what Velpeau should first have determined; the more so because, in the cases where he only aimed at resolution, he ought to prefer compression,† for a few lines further on he adds: "I might say nearly the same of compression as I have said of blisters. In all diffused subcutaneous inflammations, taken at the early stage, a compression carefully made, a roller-bandage methodically and ingeniously applied, constitutes the best possible means of resolution."

Surely it would need much less than this last expression to put an end to all competition between compression and blisters, and to give the preference to the former. If there were any doubt about it, one might take the patient's own opinion.

^{*} Revulsion means the art of turning the disease from the roint where it seems to be located.

^{*}In popular language, suppuration means about the same as bringing to a head, as in case of a boil, and resolution means to scatter or remove.

[†] Compression is the application of pressure by rollers and bandages to swelled and inflamed parts.

Treatment of Children between the Ages of Six Months and Two Years.

BY MRS. H. C. BIRDSALL.

IN a former number I gave my views, derived from my own personal experience, upon the force of habit in the case of infants, claiming that a child could be taught a number of good habits before it reached the age of six months.

When a young lady, as I visited among my friends, I saw so many things in the management of children that I thought were wrong, that I collected and stored away a number of theories. My pet theory, viz.: that all children will be gentle and lamb-like, if treated gently and considerately, has exploded; and, with the explosion has passed away all desire for such a state of affairs.

The amiable, yielding, weak-willed child is no dearer to me than the strong-willed, determined one, who yields only because he ought and must.

Between the ages of six months and two years a child learns a great deal, more, I think, than ever again in the same length of time. He should be taught in this time to be self-reliant, obedient, and helpful.

Your child has learned to sit alone and to creep; and now he is persistently trying to pull up by a chair. There! he is up! and what a weak little creature he is, not able to balance himself, swaying to and fro, only sustained by the strength of his little hands.

That is not much, mother, but do not disturb him and hurt his dignity (for he has some dignity) by taking hold of him. Sit near him, if you please, so that you may save him from any severe fall, but hands off! There he goes! some noise he made, but did you sit still long enough to see that he was not hurt? If you did not, you made a mistake; for, if he is uninjured, you have frightened him into crying, and if he was hurt, you have only added to his alarm by jumping at him.

Control, with all the strength of your mind, the disposition to start or scream at his face. If he is only alarmed, look at him with a smiling face and encourage him to get up himself. Do not take him up and condole with him upon his fall, but say cheerily, "Up again! never mind!" He will soon learn from such treatment to make a distinction between real and supposed injuries, and will be far less likely to receive them, because he has learned confidence in himself and is daily growing stronger.

Some day you lose sight of your child for a few minutes, and when you find him he is nearly at the top of the stairs.

Control yourself-don't make a rush at him, frightening him so that he falls back down the stairs. Go to him quietly; do not snatch him up, but place yourself close behind him and encourage him to finish his course to the top of the stairs. Hereafter, see that the doors are kept closed, or the stairs are so guarded that he can not get to them when he is alone. Whenever you are with him going up stairs, put him down and allow him the great pleasure of conquering them by himself. Another time you find him trying to arrange a set of blocks in the box to which they belong. He puts them all in but two or three, but these will not go right. His nervous little fingers tremble and his cheeks glow with his eagerness-do not help him. It is not so much that he wants to see the blocks in their places, as it is that he wants to put them there himself.

It occurs to me that a child of despondent temperament might give up an attempt of this kind, if he did not meet with success. In such a case a little assistance would be advisable; and this leads me to mention the duty of every mother to carefully watch both the moral and physical characters of her children, and to treat them accordingly. I think that very young infants, if well, can be treated nearly alike.

When the time for moral training arrives, there must be different methods for different children. Be gentle whenever you can—stern, you sometimes must be—loving, you can always be.

Be tender-hearted, but strong-nerved. Before your child is a year old there may be occasions for teaching him obedience. "My precious pet be made to mind before he is a year old?" cries a young mother, "indeed, he shall not. He shall have every thing he wants and do every thing he likes, until he is four or five years old. There will be plenty of time then to talk about my baby minding." Do not deceive yourself by any such plan as this. If you let your child go ungoverned now, he will, in all probability, grow to manhood ungoverned, and will look back to his childhood and blame his mother for not teaching him obedience while he was still at an age to be bent. I know of a

gentleman, who says that one of the greatest drawbacks of his life had been the fact of his being ungoverned when he was a child, and being allowed all he desired.

As an instance, one rainy day he cried for the front gate, and his mother sent a servant to remove it from its hinges and bring it into the parlor.

The occasions for enforcing obedience before the age of twelve months may be rare, but they may occur. You are drawing your child in his carriage, and he takes hold of the wheel with his tiny hand, you gently remove it, but he looks in your face with a mischievous but determined air, and puts his hand again on the wheel. Again you remove it, and again it is replaced, this time with a scream of impatience.

The child is old enough to disobey—he is also old enough to obey. Therefore inflict some slight pain upon him, a little slap upon the offending hand will probably be enough.

You call this cruel; would it not be more cruel to allow the child to incur the risk of injuring his hand in the wheel?

You are sweeping a room; the little rogue creeps in front of you and plants himself in the dirt that you are heaping up.

You take him away and give him playthings to amuse him; he won't be amused, but comes scrambling back as fast as his legs will carry him. Do not stop your work for him, but take him away again and put him in a chair or some place from which he can not come back to you. Great care must be taken to exact neither too much or too little obedience from very young children. I earnestly believe in a certain amount of judicious letting alone.

You find your child playing with something which you prize and do not consider a proper plaything for him, and which has been carelessly left within his reach. It is an article which he will not injure at one playing, but which would be spoiled in time if he were allowed its daily use as a plaything. He is very earnest over it and delighted; and, if you should take it from him, he would consider himself badly treated, and would propably show it, too. So let him keep it until he is tired of it or until something diverts his attention; then put it away where he will not reach it again.

Teach your children to look upon it as a privilege to help others, not as a duty. Do not, while a child is very young, give him any routine of duties, but, as necessity requires, send him about the house to fetch and carry small articles.

The physical treatment of children is impor-

tant, but simple, if one wishes to make it so. The main points are bathing, regularity of eating and sleeping hours, simplicity of food, and out-of-door exercise.

The habit of daily bathing should not be suspended when a child is a few months old. It is very little trouble, and, done handily, takes little time. My experience has been that it is not best to bathe a child in entirely cold water. When he is put for the first time in a bath tub, the water should be of such a temperature that he may not perceive the transition from the air to the water. I have often heard mothers say that their children could not be bathed, that they screamed as soon as they touched the water. There are, ordinarily, but two causes for this, either that the child was not introduced to the bath tub early enough in his existence, or that the temperature of the water was such as to shock him. When your baby is thoroughly accustomed to the tub, you can gradually reduce the temperature of the water until, after a few months, you can wash him in almost cold water.

A child should eat regularly and simply, but should have some variety of food. I have found that a child soon tires of one article if confined to it.

Bread and milk, bread and butter, different forms of toasted bread, boiled hominy, Indian mush, cracker panada, simple preparations of corn starch, rice boiled in milk, and roasted potatoes, make a sufficient variety. Give your child plenty of exercise in the open air. If you live in the city, all I can say is, do the best you can; but, if you live in the country, with space about you and gates well secured, put your child out-of-doors and let him wander about at his will. In summer, leave him out all day, if he enjoys it; in winter, wrap him up and send him out in moderate and pleasant weather.

Let him get as dirty as he pleases. His face will keep pretty clean if he spends enough time in the open air to prevent his taking bad colds, and if you do not allow him to eat between meals.

It is somewhat trying to see your little boy or girl reveling in the midst of a pile of dirt, especially when you remember that Mrs. C., whose children always look as if they had just issued from bandbox retirement, may possibly call and gaze with virtuously reproving eyes, but never mind that. You are living for your child; you know what is best for its health and happiness, and do not allow yourself to be moved from the course which you know to be right, by any false fear or false pride.

Time vs. Memory.

BY FRANCES DANA GAGE.

7 IS said that Time's an arrant thief, Who steals away our treasures, Making our happiest moments brief, And leaving pains for pleasures.

That though we strive, and weep, and sigh,
And beg them not to leave us,
'T is useless, and the more we cry,
The more Old Time will grieve us.

I think there's some mistake in this,
For, spite of cynic laughter,
I know, if I've enjoyed a bliss,
'T is mine for ever after.

The flower that blossoms for the morn Must wither with the morning; And should it leave us all forlorn, All other flowers scorning?

There is a bud, somewhere about,
Will ope for us to-morrow,
If we do n't crush its brightness
By useless, pining sorrow.

Who cares for Time's swift-going wings,
While Memory has the power
To gather up all pleasant things,
And bring them back each hour!

Deal Gently with the Little Ones.

E who checks a child with terror,
Stops its play and stills its song,
Not alone commits an error,
But a grievous moral wrong.
Give it play, and never fear it,
Active life is no defect;
Never, never break its spirit;
Curb it only to direct.
Would you stop the flowing river,

Thinking it would cease to flow?

Onward must it flow for ever;

Better teach it where to go.—Selected.

Generosity and Benevolence.

BY REV. HENRY WARD BEECHER.

ENEROSITY is that tendency to kindness which is produced through the senses, and which depends for its strength and continuance upon the report of the senses. Benevolence, while it includes this, is characteristically that tendency of kindness which addresses itself to the reflective faculties and the moral sense. Generosity is the kindness of the lower nature. Benevolence is the kindness of the higher nature. The one carries with it the sense element. The other carries with it the soul element, Generosity is the kindness of our bodily life, and the faculties which are more immediately connected with it. Benevolence is the kindness of the soullife, and the faculties belonging to it.

Generosity, then, is largely a physical trait, depending on the senses; on the nerves; on the conditions of the body. Benevolence is the disposition of the spiritual elements—the higher powers in men.

Let us illustrate the operation of these two elements:

In the higher Alps there was a town that Pastor Oberlin took for his charge. Poor were the inhabitants. The soil was meager. The seasons were inclement. The people were very ignorant and vicious, and much neglected. A more hopeless set of beings could hardly be conceived of. Had a merely generous man gone to this parish of the Pastor of the Alps he would doubtless have sent medicine to the sick, given food to the hungry, and provided clothes for those who were shivering with cold. He would have relieved their outside wants as fast as they were presented to him. That would have been generous. But what was the conduct of the Pastor of the Alps? He, too, gave medicine to the sick, food to the hungry, and clothes to the naked. He afforded bodily relief, as far and as fast as he could. But he reflected on the causes of sickness, and hunger, and nakedness; and while he was for the hour and the day relieving the exhibition of these things, he had it in his heart to go back and remedy them in the very fountain. He went to the invisible source of the evils. He commenced a systematic, gradual remedy, not merely of their exterior troubles, but of interior ones as well. He founded schools. He taught agriculture. He went from house to house to inspire the people with not only industry and economy, but neatness and refinement.

While on the Sabbath he taught them Christian truths, during the week he carried on these Christian truths, hy teaching them how to lift themselves above poverty, and meanness, and want. And after a few years his parishioners became as distinguished for thrift and happiness as before they had been for misery and poverty.

To give them bread to relieve their hunger was generosity; to give them clothes to protect them from cold was generosity; to supply their immediate bodily wants was generosity; but to give them power to make their own bread, to give them skill to make their own raiment, to give them that inward power which qualifies one to control the wants of every hour, was benevolence—a much higher and nobler development than mere generosity.

Benevolence, then, is the kindness of faith, or the spiritual element in man; generosity is the kindness of sight, or the bodily element. The one is transient, evanescent; the other is permanent and comprehensive.

Let us consider the advantages and dangers of these elements, taken separately and alone:

Generosity is prompt, is unselfish in act, and is designed for celerity and instantaneousness. And for such a spirit to manifest itself, there is sufficient opportunity in life. There is much suffering that needs instant relief. If we propose to give permanent relief, the road to that permanence is through immediate relief. Even when you would cause a radical remedy, you must meet the outcropping evils till your remedy can act. It may be that water on the forehead will not cure the disease, but while the medicines are operating in the system it may soothe the pain. It is well to mitigate the suffering of the patient while the process of cure is going on. And although generosity may not be adapted to touch the seat of the difficulty, yet you are reaching far in by Christian benevolence to touch the causes of things. The passing hour may be soothed and comforted by generosity. It produces a beautiful element in the human character. It makes men appear noble and winning. It impresses common and ignorant persons with the royalty of goodness ten fold as much as greater kindness addressed to the soul, and not to the senses. It may be that a Bible given to a man is the prolific cause of all worldly good, when he knows how to use it; but before he knows how to use it a loaf of bread is more a sign of goodness in his sight than the Bible. Before men know how to appreciate spiritual things you must reach their confidence and good will, by things addressed to their physical senses.

But where generosity is not based on the higher element of benevolence, it is brief, evanescent, and so unable to cope with the great duties which Christianity inspires. This world is to be disenthralled, regenerated. It is to be developed from age to age, and more and more; but its regeneration and development can not be accomplished by evanescent spirts of generosity. They must be the result of the permanent work of benevolence. Generosity is good for an hour; benevolence for ages. Gencrosity does not seek out evil. It does not go about doing good. It is stationary. It relieves the want that is presented to it, and no other. It stays at home and responds to the call of those that come for its benefaction, and those only. It is narrow, and feels merely for such things as are most striking to the senses. It is not affected by things that appeal to reason, and faith, and moral sense. It is liable to great self-deception, so that generous men often become conceited, and lie to themselves. Men praise generosity more than benevolence, simply because more men live so low that they understand generosity rather than benevolence, and material gifts rather than benefactions of the spirit; and the generous man measures his generosity, not so much by the rule by which God measures it, as by the praises of others. And so men whose kindness is shallow; men who, every hour of the day, do something, though what they do is no deeper than their palm or their pocket, always have the reputation of being noble natures, while other men, who give their time, their thought, their feeling, their very life, and have nothing else to give, are looked upon as, comparatively speaking, uncharitable.

Now, experience teaches us that there is nothing in this world so cheap as giving. If a peorman comes to my door, and I give him a quarter, and send him away, I buy my own peace with that quarter. To take my hat and go with him to the miserable den where he lives, and explore the history of his case, and ascertain what his wants are, and institute a systematic remedy for his troubles which shall relieve them, not for to-day merely, but for his whole life—that would be benevolence; and it is a cheap commutation to give him a quarter and turn him off.

Benevolence is the child of reflection. It is comprehensive. It deals rather with the causes of things than with their aspects and effects. It acts not only in view of causes, but through long periods of time. It is enduring, and so adapted to the peculiar necessity of all exertions for Christian reformation—namely, "patient continuance in well-doing." Generosity is the militia that enlist for three months, while benevolence is the regular force that enlist for the whole war.

Separated from generosity, benevolence runs into mischiefs, different from the mischiefs of exclusive generosity, but as real as they are. The two things ought to be married. It is not good for either to be alone. Generosity has its benefits if rightly affianced to benevolence, and benevolence has its benefits if rightly affianced to generosity. Each by itself has peculiar evils. Benevolence separated from generosity is apt to become cold to present suffering, and to come into sympathy with abstract principles more than with real human life; and at last it comes to be a spirit of inhumanity, inexorable for the general good, but indifferent to the particular.

A narrow generosity is the fault of the uneducated; but this perversion of the large spirit of benevolence is the particular vice of the educated, and of professional philanthropists. There are men that reason out the largest schemes of philosophy, that are cosmopolitan in their ideas, and that tell you they desire the welfare of the entire race, who have been so accustomed to generalize all things that at last they have ceased to be sensitive to particulars, and are only sensitive to the generic and abstract. When men come to this state of insensitiveness to every thing but generals, and form comprehensive schemes of benevolence, they are often the hardest-hearted men in the world. Let a man once understand that a certain system of theological teaching, or a certain system of charity is beneficial for the whole race, and let him undertake to establish it all over the world, and through all periods of time, and he will be apt to sacrifice all details, all minor particulars, for the sake of maintaining that great system which is in itself, as he supposes, to secure all the individual benefits that the world needs. So it comes to pass that we see men who are generically benevolent, but who are particularly stingy. If there is a movement for the establishment of a college, that touches their peculiar notions; and they say, "A college has a relation to the interests of generations, and should be encouraged; and they give to that object

thousands of dollars. But if in the next street there is a suffering family, the father and mother being sick and unable to provide for their children's or their own necessities, and a subscription paper is circulated for their relief, when it comes around to these men they can not attend to the wants of poor people. Their minds are occupied with larger shemes of benevolence!

If these two elements were incompatible with each other and it were impracticable to have large benevolence with generosity, it would be more than doubtful whether comprehensive charity were not comprehensive mischief. But they are reconcilable. They were designed to work together. The true idea excludes neither the one nor the other. It takes generosity to begin with, and benevolence to end with, one leading on to the other, and both working together harmoniously. And, united, they keep each other healthy.

If one's conscience is trained to the duties of generosity it will keep his large and speculative benevolence so near to human life, to humanity, that it will be less airy, less abstract, less definite, less cold. Benevolence, on the other hand, will tend to give depth and breadth to the evanescent spirit of an easily excited generosity, lifting it up from its sensuous condition, and inspiring it with a larger spirit. God meant that they should never go alone. Children should be taught to relieve visible, bodily wants, and they should also be taught to relieve invisible, spiritual wants. They should be taught that moral wants are a thousand times greater than physical wants. When they attempt to apply their benevolence to future ages and generations merely, they should be taught never to neglect present and near duties on account of remote and contingent ones. They should be taught that they must be both generous and henevolent.

Growth and Development.

BY ARCHIBALD MACLABEN, OF THE OXFORD GYMNASIUM.

THE system of bodily training of Greece and Rome had but one aspect, one aim, one object. It was designed to practice the youths of the country in all exercises tending to qualify them for the exigencies of war, as war was then pursued, as campaigns were then made, as weapons were then borne, as battles were them fought. Other object, other aim, other aspect, had it none.

But in those days, as in our own, there must have been men of unsound constitution and imperfect growth, from original weakness of organization, or from illness, ignorance, neglect, accident, and other causes. What system of bodily training was framed for their behoof? None. Here the observation of results was unequal to the requirement. They could reach no higher—they aimed no higher—than the production of a series of athletic games, suitable to the young, the brave, the active, the strong, the swift, and the nobly born.

Our knowledge of physiological science is something more valuable than this. A system of bodily exercise which should give added strength to the strong, increased dexterity to the active, speed to the already fleet of foot, is not what is alone wanted now. It is not to give the benefit of our thoughts and observations and the fruit of our accumulating information to the already highly favored, and to them only, that we aim. On the contrary, it is the crowning evidence of the divine origin of all true knowledge, that in benefiting all within its influence, it benefits most bountifully those whose needs are the greatest.

In our days, as of old, the race is still to the swift and the battle is still to the strong, but the battle of life now is waged with the brain for weapon, and the race is the high pressure competitive efforts of memory and mind. These are the great and all-absorbing struggles of our times, a "struggle for life" as hard, and involving results and transformations as unerring and inevitable, as ever were traced in the origin of species.

It is health, however, rather than strength, that is wanted now—that is the great requirement of modern times, with modern men, at non-military occupations. Bodily power, activity, and stamina for the endurance of protracted

fatigue, are still at this day as much the real want of the soldier, as they were in the days of Xenophon, of Cesar, of Napoleon. But the purposes and practices of war are not the all in all with us as they were with the Greeks and the Romans; nor are the whole of our ablebodied men under arms, nor the whole of our youths preparing for conscriptive battalions, as were the youths of Germany and France in the last century. The English army, scattered over the whole globe, and encountering the severities of every clime, claims but a fraction of our men; a small portion only of our youths are in uniform; but other occupations, other habits, other demands upon mind and body, advance claims as urgent as ever were pressed upon the soldier in ancient or modern times. From the nursery to the school, from the school to the college or to the world beyond, the brain and nerve strain goes on—continuous, augmenting, intensifying. Scholarships Junior and Senior, Examinations, open Fellowships, speculations, promotions, excitements, stimulations, long hours of work, late hours of rest, jaded frames, weary brains, jarring nerves-all intensified and intensifyingseek in modern times for the antidote to be found alone in physical action. These are the exigencies of the campaign of life for the great bulk of our youths, to be encountered in the schoolroom, in the study, in the court of law, in the hospital, in the asylum, and in the day and night visitations to court and alley and lane; and the hardships encountered in the fields of warfare hit as hard and as suddenly, sap as insidiously, destroy as mercilessly, as the nightmarch, the scanty ration, the toil, the struggle, or the weapon of a warlike enemy.

Yes, it is health rather than strength that is the great requirement of modern men at modern occupations; it is not the power to travel great distances, carry great burdens, lift great weights, or overcome great material obstructions; it is simply that condition of body, and that amount of vital capacity, which shall enable each man in his place to pursue his calling, and work on in his working life, with the greatest amount of comfort to himself and usefulness to his fellow-men. How many men, earnest, eager, uncomplaining, are pursuing their avocations with the inminency of a certain breakdown before them-or with pain and weariness, languor and depression; when fair health and full power might have been secured, and the labor that is of love, now performed incompletely and in pain, might have been performed with completeness and in comfort.

Let it not from this be inferred that I con-

sider health and strength as in any manner opposed to each other; on the contrary, they are most intimately allied, and are usually by the same means and in the same manner obtained. Very closely are they connected, but they are not the same, and a man may possess either without the other. For strength may be due to the great force possessed by one system of the body, such as the muscular; or great force in one part of the body, such as the trunk or the limbs; but health is the uniform and regular performance of all the functions of the body, arising from the harmonious action of all its parts-a physical condition implying that all are sound, well-fitting, and well-matched. Young minds do not look far enough into life to see this distinction, or to value it if seen; they fix their longing eyes upon strength-upon strength now, and care not for the power to work long, to work well, to work successfully hereafter, which is Health. Therefore it is fortunate that the same means which usually give strength give health also; although the latter may be jeopardized by irregular efforts to obtain the former. Again, it is fortunate that this most desirable of all earthly possessions should spring from the regular and uniform development of the body as a whole, not from the extreme development of any special part. Vast strength of limb may be found united to a comparatively feeble trunk, a massive trunk to dwarfish limbs, great muscular force to delicate lungs. These alike reveal local power and local weakness, and these are not the developments which yield Health.

Let both man and boy, therefore, cultivate strength by every available means, but let it be general not partial strength. The Battle of Life requires for combatant the whole man, not a part; and the whole too in as good condition as can be brought into the conflict.

There is no profession, there is no calling or occupation in which men can be engaged, there is no position in life, no state in which a man can be placed, in which a fairly developed frame will not be valuable to him; there are many of these, even the most purely and highly intellectual, in which it is essential to success; essential, simply as a means, material but none the less imperative, to enable the mind to do its Year by year, almost day by day, we see men falter and fail in the midst of their labors-men to whom labor is life, and idleness is death-men who with a negation of self and self-comfort even unto martyrdom, devote themselves to great purposes and great works, and before their completion fail: men who run the

life-race with feet winged with the purest faith and hearts full of the noblest hope, and who, with the goal in view, falter and fail; and all for the want of a little bodily stamina—a little bodily power and bodily capacity for the endurance of fatigue or protracted unrest or anxiety or grief. Strongly has this been ever impressed upon me, more strongly than ever of late years, but never so strongly, never so sadly, never in its every aspect so impressively, as in the death of a late statesman, eminently alike for the height of his intellectual attachments, the nobleness and purity of his aspirations, and the gentleness and almost feminine sweetness of his character. He sank in early manhood, with his great career just begun, his great works but outlined by his hand; to other hands was left their accomplishment, to other hearts their fulfilment, and all for want of a little of that bodily stamina, a little of that material hardihood, a little of that power of enduring fatigue, which he was even as he failed, seeking to extend, through the means of this system of bodily training, to every soldier in the land.

This need of such a preparation for the coming struggle of manhood in these times of high civilization and intellectual advancement being then so apparent, what is the great hindrance to the due training of the body? It is to be found in the tgo exclusive cultivation and employment of the mind; in the long and continuous hours of physical inaction with extreme mental effort and inordinate mental stimulation, which the requirements and educational demands of the present day often involve; in the overlooking or ignoring of the fact that the body also has urgent and distinct claims to culture and employment.

Are these two then opposed? Is a healthy, energetic, and vigorous frame incompatible with a powerful and vigorous intellect? We know that it is not so. Science and experience alike confirm the fact that the one is in every case an aid to the other. That the intellect can rarely attain, or if it already possesses, can rarely long retain a commanding height when the bodily functions are impaired; that the body itself will be at its best and most worthy condition when its claims are most fully shared by mental occupations, and that the healthy condition of the mind, produced by sufficient and natural employment, will react most favorably upon the body. can never be doubted for a moment; yet we continually find the one warring upon the other. We shall find the reason of this in the overlooking of the laws which govern both mind and body.

The mind acts through a material organ, the brain, upon which it is entirely dependent, and which, in common with the other organs of the body, is subject to a constant decay and constant renewal from the most vital fluid; these processes being accelerated and its strength and vigor consequently augmented in proportion to its activity. But in common with other organs also, if this activity is carried on beyond certain limits, its waste exceeds nutrition, its strength gives place to weakness. then is dependent upon the blood for its material support, and its healthy action is dependent on its receiving an adequate supply of healthy blood. Moreover, the organ of the mind being subject to the same laws as the other organs, requires similar alternations of rest and action to maintain it in its natural state of efficiency; and if either of these states be deficient or in excess, the brain, and consequently the mind, will deteriorate. If therefore the cultivation or exercise of the mind be neglected, it will of necessity be weakened in precisely the same manner as the other organs are weakened by insufficient use, will deteriorate both in strength and vigor and power of enduring fatigue. If, on the other hand, the exercise of the brain be excessive, beyond the point where the nutrition is equal to the waste, it will suffer in the same way to the same extent as the other organs would

It would be well if parents would ask themselves at the outset what is their object in the training of their children. "They wish them thoroughly educated," would probably be the response. Then let their first care be that the body shall be healthy and fairly grown. Let them take care that the mind shall receive that amount of culture which will develop and strengthen it, but let them pause at that point where exercise and application are merging into fatigue; so shall it attain its utmost attainable point of strength and vigor, so shall it reach its highest attainable capacity of enduring exertion and effort. Year by year will it be found to increase in these attributes, and in the aftertime, if a call for extra exertion should come, it will not come upon it unprepared. And more than this, the body having received its due share of cultivation also, will itself be gaining year by year, and while contributing to the health of the mind by its own health, will be able to endure successfully its allotted amount of labor, in whatever position of life, under whatever sun, it may toil. Nor let parents imagine that their sons who are destined to what are, chiefly or exclusively, sedentary professions, need not so

much preparation for their coming life. The clergyman, the physician, the barrister, are often called upon to endure even as much bodily fatigue as the soldier or sailor, and the numerous premature failures among all these classes show how needful such preparation is and how little the necessity has been recognized.

And yet how often do we find parents stimulating by every imaginable method, and by every suggestive expedient, the mental cultivation of their children; given to physical exercise and to physical recreation, and to devote them to study. What is it these parents are seeking? Is it the future welfare of their children, or is it (let us examine it closely) the gratification of their own pride in their children's superior talents and intellectual attainments? It has been said that the pride of parents in their children is, of all kinds of pride, the most excusable; but even our pride in our children may have many phases, and that phase can not be a purely unselfish one which would sacrifice ultimate health and happiness for temporary distinction, praise, and admiration.

The very interest evinced in the premature development of intellectual ability is dangerous to the young, appealing as it does to one of the most powerful stimulants in the youthful mind, the love of praise and notoriety. Boys soon learn to love the excitement which such an artificial mode of life produces, and cease to feel any interest in, or desire for, the active pursuits usually so dear to youth. Others there are thus forced into abnormal advancement, who work on reluctantly to the end, but once emancipated, the distasteful task is for ever abandoned. Which of these is most deserving of our pity, the unnatural young hermit, who in his books alone takes delight, or the too natural little Arab to whom books and book-learning have become a thing of disgust? Most parents have at some time or other felt a pang of alarm at seeing their child turn with carelessness from the food which they knew to be necessary to its I have already experienced the well-being. same feeling at seeing a child turn with indifference or dislike from the sports and pursuits of his companions to creep back to his books; and also as much alarm, mingled with anger-for false and cruel must have been the teaching which caused the dislike-at seeing the healthy and strong child turn with repugnance from his books.*

Earnestly, however, as I desire to advocate the cultivation of the bodily powers, I would guard against its being thought that I would neglect cultivating to their full capacity the mental ones. That would only be erring in another direction, and although a safer one in some important respects, important as regards present comfort and future health, it is still altogether erring; and the right path is broad and open and plain, free alike to all who will look for it with unprejudiced eyes. The brain also requires systematic and ample exercise to develop its attainable powers, and where there exists no unusual weakness, its reasonable culture can scarcely begin too soon or be pursued too steadily. Putting aside the necessity in these days for a highly comprehensive education, a degree of mental culture proportioned with careful hand to the age and mental and physical capacity will be found to act with advantage to the latter, and the relish and zest for bodily exercise, which supplies the most valuable of all incentives, will be increased by it. The giving of a large part of the day to exclusive bodily occupation is, for those who are to take a place in the educated world, an equal error—a rejecting of the advantages of civilization. The body makes no such exacting demands. Let it not therefore be inferred that I would undervalue the rurely mental work of schools, nor let it be for a moment imagined that I would advocate a less active, a less energetic, a less earnest pursuit of it. On the contrary, it is because I would sustain in their most ardent efforts its youthful votaries, and enable them in the aftertime to reap to the full the fruit of their labors, that I plead for a more discriminating indulgence in occupations purely mental and sedentary at this period of life. For there is no error more profound, or productive of more evil, than that which views the bodily and mental powers as antithetical and opposed, and which imagines that the culture of the one must be made at the expense of the other. The truth is precisely the reverse of this. In the acquirement of bodily health mental occupation is a helpful, indeed a necessary agent. And so impressively has this been proved to me, that in cases where the acquisition of bodily health and strength was the all-in-all desired by the parent, and the one thing longed for by the child (and in some cases almost despaired of by myself), I have been careful to allot and mark out a proportion of mental with bodily occupation.

^{* &}quot;My boy works seven hours a day regularly, sometimes eight," said a lady to me composedly. The boy had just turned his eighth year. Four languages besides his

own, Latin and Greek, French and German, with History, Geography, Arithmetic, and Instrumental Music! Were his headaches real or sham I wonder?

Baths for the Babies.*

BY MRS. R. B. GLEASON, M. D.

THE impression that the water treatment can not be adapted to the wants of the weak and wee ones is incorrect.

Cold packs, plunges, and douches were a peculiar feature of the Priessnitz method, hence the name, cold water cure is applied, when water hot or tepid is largely used. Water can be varied in temperature, and its use repeated, so as to soothe the slightest fever and relieve chills, creeping or congestive, whatever the age of the sufferer.

Let an infant's first bath be about 98°, and from week to week gradually reduce it, as he will enjoy and get warm after. We say enjoy, for babies ought not to cry, as a rule, when they are bathed; and seldom will, if it is done with due discretion. Very few like being washed all over with a wet cloth, but a dip in a bath, or even remaining in one a minute, and being rubbed, is usually enjoyed, unless the little one has been scared by water too cold or too hot for comfort. After the bath, lay the baby in a soft towel and wipe it dry. Then rub gently with the hand, and let it lie before the fire, on the lap, with limbs unfettered, and get exercise and a good reaction. Or, if the room is too cool, or the baby inclined to be blue, wrap it in a woolen blanket for half an hour before dressing. One bath a day is sufficient. If the little one is delicate, two or three times a week is better for the first few weeks. Let this be done during the fore-part of the day. If the child is restless at night, or has an eruption on the skin, then a second bath may be given at evening. During the first year they will come to enjoy baths at 70° or 80°, according to their reactive power. I very well remember setting down my baby's bath tub of cold water in mid winter, while I went for hot water to add. When I came back my little boy had crept to the tub, climbed in and sat down, with a slight shiver and a look of surprise, but no out-

When a child is sick, the temperature of baths should be modified to meet the wants; remembering that if there is fever the surface is more sensitive to cold, hence baths or bandages should be warm, so as not to shock the little patient, which does harm, and makes them dread what they might enjoy. We have had the care of

many sick children, whose parents feared we would have great difficulty in giving them water treatment, because they cried when they were washed; but we very seldom have trouble, for after the first few they come to take baths as a pleasure.

We took a little girl from the Orphan's Home, who was very sick with cough and chronic diarrhea. Every thing being strange to her in the bath rooms, she screamed as soon as she entered, and went down into her warm bath as if she was descending into a flery furnace or a freezing flood. But finding the water comfortable she grew calm, and ever afterward longed for her bath as the great treat of the day. When her daily fever came on she would say, "Me feel sick, and me want bath;" and when it was over, "Me had nice bath, me feel better now."

Children who have grown up under water treatment will ask, when sick, for baths and bandages; their own sensations often being the best guide as to what they need.

A child in a bath is always a sweet picture, and especially so when the bright face says, as well as the words, "I feel better now." By way of contrast, see the subject for pills and castor oil held in strong arms while the mother tries to hold the nose together and the tongue down, while she gives the pill, which, perhaps, after all, sticks to the teeth, and the oil pours out rather than in.

A gentleman who was partial to the early Thompsonian system, of heavy doses and many varieties of medicine, said when his child was sick he was obliged to call another doctor, because his child's stomach could not hold all the remedies prescribed.

· From slight observation, we judge that it is a difficult matter to get any except Homeopathic remedies into these little stomachs. Hence we know how glad mothers are of any remedy that sick children will enjoy. Baths judiciously administered are pleasant to take and beneficial in their effects.

^{*}This article is an extract from the new book, "Parlor Talks to Ladies," now in press by Woop & HOLDROOK.

The work will be ready in March. See announcement elsewhere.

Industrial Education.

BY MRS. HOBACE MANN.

THE public mind of Boston and many other places where the Massachusetts Common School System has been in operation on a large scale, giving an opportunity for all classes of the community to receive almost any amount of literary instruction, up to the point of preparation for college in the case of boys, and highschool instruction for girls, has been very actively at work of late to account for the want of true education that is apparent, especially in the last generation. Education is a great word, and the mere reception of instruction is the very smallest part of it. There are some gifted minds that need only an opportunity to get at books, methods, and ideas, as one might find a silver mine, whose value needs no explanationand they straitway go on and educate themselves. We will leave such to their manifest destiny. Genius knows how to appropriate all the treasures it finds, but genius is exceptional, and we will set its claims aside as irrelevant to our present criticisms upon the education of the people, which is the object of the common schools. The fathers who built the school-house and the meeting-house side by side, when they first came into the wilderness in New England, and who soon added the college to the school-house, on the same principle and with the same purpose, namely, that every member of the community should have an opportunity for education, and that those who were to take part in the government together should be brought up in sympathy, saw with a prophetic eye that only thus could the republic they wished to found continue to be a republic in the true and highest sense. The sentiment at the moment was that rich and poor should be educated together. I should say the refined and the rude, for all were poor and had to toil for their subsistence. Soon the accession of others not actuated by so pure a principle, and the prejudices of caste brought from the Old World, marred this democratic idea. The refined did not like to expose their children to contact with the rude, however virtuous they might be, and private education and select schools increased, till the public schools became little more than charity schools, and then teachers were ill-paid, schools were kept in wretched, barn-like buildings, and the whole system deteriorated.

A great effort was at last made to restore the public school to its original intent, and under able leadership the movement was highly successful. School-houses became palaces, teachers' salaries were increased, teachers' seminaries instituted; it became respectable, and in many places even genteel, to attend the public school. Great efforts were made to include the children of the foreigners who crowd to our country in this beneficent movement, which could be done if the schools were made unsectarian. It was found that the American-born Irish were as bright as American-born English, and, indeed, alarm was soon taken lest there should be no lower class, and then what would the higher classes do for servants? Who would do the work of the world? The true democratic idea that labor is honorable and that its practice need not be looked upon as disgraceful per se, even by the refined, had not taken very deep root, and chiefly because it had not been made intellect-It was opposed also by the selfishness, egotism, and false pride of men, fostered as they had been in the higher classes of the world's society, in communities where slavery and serfdom had existed. The first evidence of this deep-seated alarm was the suppression of a fine high school in Boston, at which the children of the poorer classes, some of the Irish being included, had shown as brilliant scholarship, under the instruction of a talented and enthusiastic teacher, as the children of the first families in point of rank and fortune.

But an impulse had been given which could no more be stayed than the rush of waters over a broken dam. An idea had been born, a truth had been seen. This idea, this truth was that every child of God has an inalienable right to the highest education he can attain. It was one of those indestructible and self-evident truths that once seen can never be ignored. All the arguments that can be brought against it have their foundation on the low plane of selfishness. In despotic countries even, it has been impossible to stay the tide. The present King of Prussia, under the lead of his Catholic mother, has seen that a despotic throne can not long stand upon the knowledge of the people, and he has made a fruitless effort to check that progress of education in his own land, which, if he could but see it, has at last made Germany a unit. It was the intelligence that wielded his armies which gave them their success, and Austria herself has seen it, and roused herself from her long slumber and made a gigantic stride toward progress. The reactionary movement has now been opposed by the teachers forming themselves into a body against it. How still more impossible is it to stem such a current in a country governed by free institutions!

Let us do nothing to check progress, as some public reasoners are now trying to do. Let us not undervalue this love of knowledge that has been awakened by opportunity, this consciousness of power that has been imparted to what was once a brute mass—a consciousness that makes every man an individual, as far as he truly has it.

But an evil has arisen, side by side with the new institution of the school for the people. to this time brain-work has been considered more honorable than hand-work, therefore those who cultivate their intellect trust to live by their intellects, if they must work at all, and turn aside from labor in all its forms. The graduates from our schools who have still farther opportunities of study and can go into the walks of science and philosophy, may well do so, for there is ample room for the best brainwork they can produce; there are still benighted lands where this idea of cultivating the faculties of all men has not yet dawned; there are kingdoms of nature that need more explorers than all human institutions can yet furnish.

But the others? What are those to do who have no farther opportunities? those who come from the ranks of ignorance and manual labor. and must fall back into those ranks? What must become also of the ungifted who return to the ranks of the refined and intelligent with delicate tastes awakened, refined sentiments stimulated, new wants created even by what they have tasted of the pleasures of knowledge? Must they not labor to a greater or less extent? for the inheritance of wealth is very small in any country, and only the gifted can find employment in subduing and controlling the powers of nature that lie around them. What have they learned in the schools that can help them? Even many of the gifted have no means of devoting themselves to the intellectual labor they are well fitted to perform, and being wholly uneducated in any industrial pursuit, prove a burden on society as well as upon themselves. It is true they are not so hopelessly burdensome to themselves or to others as the former class, as they may yet find a sphere of action at home or abroad. It is for the former class, neither fit for intellectual work nor any other that society is especially anxious; for these, the girls especially, rapidly deteriorate in a moral point of

view and become the pests of society. To return to their uncultivated homes and resume uncongenial labors, is not to be thought of by those who have been on an equality at school with children of the more favored classes of society. The latter now turn to them a cold shoulder, for their families do not move in the same sphere. Is it strange they should look ashamed at manual labors that these companions do not share? that they even despise the needle which they have not been taught to use, and which they see is not wielded except in a little fancy work by their more favored school-fellows? Is it strange that they crave the same amusements, and wish for the same fine clothing as they? It has never been inculcated upon them at school that labor is honorable. They have never been instructed there to use their hands in any useful way. The competition has been for marks and places earned by lessons, but the connection between these lessons and the uses of life have never been pointed out. In fact, the saddest degradation awaits them, and the evil has become such a crying one, that the women of the land are taking measures to meet and to stem it. They see that the difficulty anticipated by the alarmists who broke up the successful Boston high school thirty years ago, is the least of the evils that have come out of this partial education of the common schools, this mere book-learning without practical application. It is true that the native American people have for the most part long since dropped out of household service, leaving it to foreigners, who come into it without the tirst idea of thrifty or skilled housekeeping. To restore this profession, as we may call it, to the respectable place it had in early times among us, and which it deserves in the estimation of society, suggests itself as the first remedy, but how is it to be done?

A benevolent lady of Boston, who fortunately has wealth at her command, and can therefore act independently, and whom this very wealth stimulated to look around her for opportunities of using it for the benefit of others less favored, began an individual effort by placing a superior woman, at her own expense, in one of the public schools, in order to introduce into it the first most necessary branch of industrial trainingsewing-which has fallen into disuse even in the primary schools. Her wish was to prove the practicability and utility of the movement by one well-ordered experiment. It was eminently successful. The committee granted one hour in the week only, but the excellent woman who undertook it invited the pupils to come to her own home in their leisure hours to profit the

more by her instructions. During the years of the war, the children of that one school made more than 1500 garments for the soldiers. This success led to still farther efforts. Many children were found in the school who had no acknowledged parentage-children who had been placed with nurses and were after a time abandoned and never reclaimed. Often they were delicate in constitution and nervously susceptible. Probably they never had even the same fostering care as the children of the nurses to whom they had been intrusted, and no family life was open to them. As they grew older, their fate was left in their own hands, and they were subject to become the prey of the spoiler. In reference to this special class, the lady in question saw that special action was needed. She placed the able woman she had employed, and who had called her attention to this want, in a house which she bought and furnished for the purpose. The teacher who had been in the habit of inviting the children of the school to her own home, had boarded with friends who were kind, sympathizing and accommodating, but it became a great tax in a private house, so continually did the numbers of these little visitors increase. A special house for the purpose had therefore grown to be a demand, and this, too, has been a successful experiment. Several orphans were placed under Mrs. Gilson's care as residents, and these, with the assistance of those invited from the school in their leisure hours, have been taught to do the work of the house, to complete its furnishing by their handiwork in making quilts, comforters, and rag mats, tidies, and even picture frames; and when sufficiently trained, the inmater, as well as many others, have been gladly received into families, to which they have proved a great blessing, and where they have commanded high wages by their manner of performing their duties and by their care of children. A procession of such girls has passed through that abode of peace and love, which they are invited ever after to consider as their home in days and hours of recreation. children of the poor have been welcomed to be taught the care of the sick at home, and are allowed to bring their materials and learn to make them into nutritious drinks and soups, and to ask information in difficult circumstances. The principle that has always been inculcated is, that the occupation of the household service is a high instead of a low one; that upon the way it is administered depends in a great measure the happiness of families and the good of children, so fearfully sacrificed by the ordinary ran of domestics; and that a faithful discharge

of such duties insures them the friendship and esteem of those who know that no money can pay for such heart service. If any children are found that have special talents for any occupations, money, here happily at command, is not spared to insure them thorough special instruction. In this way, artistic talent has been fostered. In all the ordinary instruction in sewing, the making of quilts and comforters, the ornamenting of aprons and sacques, the knitting and crocheting, taste in the use of colors and forms of beauty is carefully cultivated, at once elevating the occupation to a fine art. The effect of all these influences upon manners is a gentle refinement, which strikes the visitor very powerfully. The children are also encouraged to give away what they make to those who are needy, and at this house have been made all the shirts for the Reform School, lately established at West Newton.

This is an illustration of what can be done under the most favorable circumstances, and such houses can be multiplied by combining the means of several persons, for one such house in the city of Boston-how inadequate to the crying want of the times! I could tell you of a still more wonderful result of efforts made under the most unfavorable circumstances, by an individual whose resources were drawn out of her own heart. But I must reserve that for another time. What I have already described will serve as an argument in support of the point I now wish to dwell upon, which is, that our public system could be so improved as to strike at the very root of the evils now so palpable to those who look deeper than the surface, and have come to the conclusion that mere charity, however profuse, can not reach the difficulty. It can only be reached by systematic, universal, industrial education in the very schools in question. Every individual must be taught to provide for himself by the harmonious cultivation of all the powers.

Mr. Wm. T. Atkinson, of the Boston Institute of Technology, who has written so ably upon the need of scientific culture, not in opposition to, but side by side with classic culture, gave some account, on a late public occasion, of the half-time schools that grew out of a necessity in England. It was impossible for the poor to let their children pass all their days at school. They needed their assistance, and the consequence was such irregularity of attendance that the instruction was of little use. A plan was formed of having them spend a few hours in school instead of all day. This insured attendance, and it was found, moreover, that such

pupils made more rapid progress in intellectual education than those who actually went all day. This is leading to radical changes in the school system for all classes, not only in England but in Germany, where the same thing was tried with the same results, and where the whole public school system is undergoing modification in consequence. It remains for us to do the same. It is plain that one-half the nature and powers of children have been uncultivated by our system of lessoning, with marks and prizes as the goal instead of excellence, and that when the school-life is ended, the pupils are not only incapable of practical action, but partially developed, even intellectually, from want of harmonious culture. If the art of housekeeping, which in some aspects is a divine act, can not be taught in the school, a thousand handicrafts can be, beside plain sewing; the artistic powers can be brought out by drawing and modeling, and by tasteful fancy work. It has been ordained of late in Massachusetts, that there shall be free drawing taught in every town that has a certain number of inhabitants, and this is a good beginning, but the plan of industrial training to be really efficient and to reach all who need it, must be thought out upon a large scale and applied to pupils of every class. We hear as loud complaints from the idle and frivolous girls of well-to-do families of having nothing to do, as from any less-favored class. When labor becomes skilled labor, it becomes ennobling and attractive, because it taxes the intellectual as well as the physical forces. Almost all labor may become artistic in its character. From the carpenter grows the architect, if science and taste are applied to the occupations. Some of our best sculptors began life as stone-cutters, and knew not the cunning that was in their hands, till they held the chisel and found they could make their imaginations create beauty out of the hard rock. The most gifted artificers of porcelain were at first rude potters of clay. There is a story of one who wandered aimlessly about in his youth, unable to fix his mind upon any occupation, till he saw some beautiful samples of porcelain ware and learned that they were fabricated out of clay. He never rested till he had learned the art, in which he became distinguished. Some of our native landscape painters, who have attained excellence, were men before they discovered their own talent. I have in my mind one especially who had a natural eye for color, but he had never had an opportunity to learn to draw, and could only do it ever after with color. If he had been skillully trained, like Allston, one knows not to

what eminence he might have attained. So of Harding and Healy, both distinguished in their profession. Many a young man and woman might find themselves able draughtsmen, an occupation which commands large compensation, if in childhood the opportunity had been offered of learning to draw. Our schools of design take adult pupils, but all the practice of early years is lost by not having daily instruction. So all the varieties of needle-work, embroidery, lace work, tapestry work in crewels and flosses, knitting, netting, crocheting, have been invented in the course of time by those who have been taught the first principles of these arts. The savages of the Pacific Islands, wholly uncultured as they are, show much native talent in weaving symmetrical patterns and borders for the mats they braid out of the leaves of trees cut into strips, and dyed in various colors with the juices of fruits. One feels sure, in looking at these complicated patterns, which require much calculation, that the talent that wove them might have made their possessors distinguished mathematicians, if the opportunity had ever been given them. Many of them have gone so far, even in their savage state, as to construct machinery to save themselves labor in manufacturing products out of these leaves of trees and the fibers of other plants, usually braided with the fingers and sewed with bone needles. Doubtless the artistic interest of accomplishing these works is as great in proportion to the success, as the enjoyment of Michel Angelo in his creations. Beautify labor, and it becomes artistic. Let a religious or a benevolent sentiment inspire it, and it becomes the highest art. Every common utensil of life was an article of beauty in form and ornamentation among the Greeks, in whom the spirit of art seemed to be a native growth, but was in the highest expression the product of talent and culture combined. The principles of agriculture applied to flowers becomes horticulture and landscape gardening. The hanging gardens of Eastern palaces were prodigies of art, and yet how simple the primitive forms! natural growths, combined by taste and science. The intense activity of our people will employ itself in something. run riot if not cultivated, and degenerate into the coarsest form of personal enjoyment-love of dress and display, unembellished by taste or sentiment. Once cultivate the powers to their highest uses, and labor will become sanctified, as it was with the ancient guilds that wrought the wonders of architecture in the form of temples of worship, and all will labor for the good of each, if under the guidance of elevated minds.

OUR STUDIES IN PHYSIOLOGY.

FIRST STUDY:

THE body of a living man performs a great | diversity of actions, some of which are quite obvious; others require more or less careful observation, and yet others can be detected only by the employment of the most delicate appliances of science.

Thus, some parts of the body of a living man is plainly always in motion. Even in sleep, when the limbs, head, and eyelids may be still, the incessant rise and fall of the chest continue to remind us that we are viewing slumber and not death.

But a little more careful observation is needed to detect the motion of the heart; or the pulsation of the arteries; or the changes in the size of the pupil of the eye with varying light; or to ascertain that the air which is breathed out of the body is hotter and damper than the air which is taken in by breathing.

And lastly, when we try to ascertain what happens in the eye when that organ is adjusted to different distances; or what in a nerve when it is excited; or of what materials flesh and blood are made; or in virtue of what mechanism it is that a sudden pain makes one start—we have to call into operation all the methods of inductive and deductive logic; all the resources of physics and chemistry, and all the delacacies of the art of experiment.

HUMAN PHYSIOLOGY.

2. The sum of the facts and generalizations at which we arrive by these various modes of inquiry, be they simple or be they refined, concerning the actions of the body and the manner in which those actions are brought about, constitutes the science of Human Physiology An elementary outline of this science, and of so much anatomy as is incidentally necessary, is the subject of the following lessons; of which I shall devote the present to an account of so much of the structure and such of the actions (or, as they are technically called, "functions") of the body, as can be ascertained by easy observation, or might be so ascertained if the bodies of men were as easily procured, examined, and subjected to experiment as those of animals.

A MAN IN A CHAMBER OF ICE.

3. Suppose a chamber with walls of ice.

through which a current of pure ice-cold air passes, the walls of the chamber will of course remain unmelted.

Now, having weighed a healthy living man with great care, let him walk up and down the chamber for an hour. In doing this he will obviously exercise a great amount of mechanical force; as much at least as would be required to lift his weight as high and as often as he has raised himself at every step. But, in addition, a certain quantity of the ice will be melted or converted into water, showing that the man has given off heat in abundance. Furthermore, if the air which enters the chamber be made to pass through lime-water it will cause no cloudy white precipitate of carbonate of lime, because the quantity of carbonic acid in ordinary air is so small as to be inappreciable in this way. But if the air which passes out is made to take the same course the lime-water will soon become milky, from the precipitation of carbonate of lime, showing the presence of carbonic acid, which, like the heat, is given off by the man.

Again, even if the air be quite dry as it enters the chamber, that which is breathed out of the man and that which is given off from his skin will exhibit clouds of vapor; which vapor, therefore, is derived from the body.

After the expiration of the hour during which the experiment has lasted, let the man be released and weighed once more. He will be found to have lost weight.

Thus a living, active man constantly exerts mechanical force, gives off heat, evolves carbonic acid and water, and undergoes a loss of substance.

HUNGER AND THIRST-FOOD.

4. Plainly, this state of things could not continue for an unlimited period, or the man would dwindle to nothing. But long before the effects of this gradual diminution of substance become apparent to a bystander, they are felt by the subject of the experiment, in the form of the two imperious sensations called hunger and thirst. To still these cravings, to restore the weight of the body to its former amount, to enable it to continue giving out heat, water and carbonic acid, at the same rate for an indefinite period, it is absolutely necessary that the body should be supplied with each of three things,

and with three only. These are, firstly, fresh air; secondly, drink—consisting of water in ome shape or other, however much it may be adulterated; thirdly, food. That compound known to chemists as protein, and which contains carbon, hydrogen, oxygen, and nitrogen, must form a part of this food if it is to sustain life indefinitely; and fatty, starchy, or saccharine matters ought to be contained in the food, if it is to sustain life conveniently.

5. A certain proportion of the matter taken in as food either can not be, or at any rate is not used; and leaves the body as excrementitious matter, in the condition in which it entered it, without ever being incorporated with its substance. But under healthy conditions, and when only so much food as is necessary is taken, no important proportion of either protein matter, or fat, or starchy or saccharine food, as such, passes out of the body by this or any other channel. Almost every thing that leaves the body, in fact, does so either in the form of water, or of carbonic acid, or of a third substance called urea, or of certain saline compounds.

Chemists have determined that these products which are thrown out of the body and are called exerctions, contain, if taken altogether, far more oxygen than the food and water taken into the body. Now, the only possible source whence the body can obtain oxygen, except from food and water, is the air which surrounds it.* And careful investigation of the air which leaves the chamber in the imaginary experiment described above would show, not only that it has gained carbonic acid from the man, but that it has lost oxygen in equal, or rather greater amount to him.

6. Thus, if a man is neither gaining nor losing weight, the sum of the weights of all the substances above enumerated which leave the body ought to be exactly equal to the weight of the food and water which enter it, together with that of the oxygen which it absorbs from the air. And this is proved to be the case.

WASTE AND SUPPLY.

Hence it follows that a man in health, and a "neither gaining nor losing flesh," is incessantly oxidating and wasting away, and periodically making good the loss. So that if he could be confined in the scale-pan of a delicate spring balance, like that used for weighing letters, in

his average condition, the scale-pan would descend at every meal and ascend in the intervals, oscillating to equal distances on each side of the average position, which would never be maintained for longer than a few minutes. There is, therefore, no such thing as a stationary condition of the weight of the body, and what we call such is simply a condition of variation within narrow limits—a condition in which the gains and losses of the numerous daily transactions of the economy balance one another.

7. Suppose this diurnally-balanced physiological state to be reached, it can be maintained only so long as the quantity of the mechanical work done, and of heat, or of other force, evolved, remains absolutely unchanged.

Let such a physiologically-balanced man lift a heavy body from the ground, and the loss of weight which he would have undergone without that exertion will be immediately increased by a definite amount, which can not be made good unless a proportionate amount of extra food be supplied to him. Let the temperature of the air fall, and the same result will occur, if his body remains as warm as before.

On the other hand, diminish his exertion and lower his production of heat, and either he will gain weight, or some of his food will remain unused.

Thus, in a properly nourished man, a stream of food is constantly entering the body, in the shape of complex compounds, containing comparatively little oxygen; as constantly, the elements of the food (whether before or after they have formed part of the living substance) are leaving the body, combined with more oxygen. And the incessant breaking down and oxidation of the complex compounds which enter the body are definitely proportioned to the amount of force the body exerts, whether in the shape of heat or otherwise; just in the same way as the amount of work to be got out of a steam engine, and the amount of heat it and its furnace give off, bear a strict proportion to its consumption of fuel.

THE ERECT POSITION OF MAN.

The erect position, which we assume so easily, and without thinking about it, is the resultof the combined and accurately proportioned action of a vast number of muscles. What is it that makes them work together in this way?

8. Let any person in the erect position receive a violent blow on the head, and you know what occurs. On the instant he drops prostrate, in a heap, with his limbs relaxed and powerless. What has happened to him? The

^{*}Fresh country air contains in every 100 parts nearly 21 of oxygen and 79 of nitrogen gas, together with a small fraction of a part of carbonic acid, and a variable proportion of watery vapor and ammonia.

blow may have been so inflicted as not to touch a single muscle of the body; it may not cause the loss of a drop of blood; and, indeed, if the "concussion," as it is called, has not been too severe, the sufferer, after a few moments of unconsciousness, will come to himself and be as well as ever again. Clearly, therefore, no permanent injury has been done to any part of the body, least of all to the muscles, but an influence has been exerted upon a something which governs the muscles. And this influence may be the effect of very subtle causes. A strong mental emotion, and even a very bad smell, will, in some people, produce the same effect as a blow.

MIND NOT THE GOVERNOR.

These observations might lead to the conclusion that it is the mind which directly governs the muscles, but a little further inquiry will show that such is not the case. For people have been so stabbed, or shot in the back, as to cut the spinal cord, without any considerable injury to other parts; and then they have lost the power of standing upright as much as before, though their minds may have remained perfectly clear. And not only have they lost the power of standing upright under these circumstances, but they no longer retain any power of either feeling what is going on in their legs, or, by an act of their volition, causing motion in them.

9. And yet, though the mind is thus cut off from the lower limbs, a controlling and governing power over them still remains in the body. For, if the soles of the disabled feet be tickled, though no sensation will reach the body the legs will be jerked up, just as would be the case in an uninjured person. Again, if a series of galvanic shocks be sent along the spinal cord, the legs will perform movements even more powerful than those which the will could produce in an uninjured person. And, finally, if the injury is of such a nature that the cord is crushed, or profoundly disorganized, all these phenomena cease; tickling the soles, or sending galvanic shocks along the spine will produce no effect upon the legs.

THE BRAIN.

By examinations of this kind, carried still further, we arrive at the remarkable result that the brain is the seat of all sensation and mental action, and the primary source of all muscular contraction; while the spinal cord is capable of receiving an impression from the exterior, and converting it not only into a simple

muscular contraction, but into a combination of such actions.

Thus, in general terms, we may say of the cerebro-spinal nervous centers that they have the power, when they receive certain impressions from without, of giving rise to simple, or combined, muscular contractions.

10. But you will further note that these impressions from without are of very different characters. Any part of the surface of the body may be so affected as to give rise to the sensations of contact, or of heat or cold; and any or every substance is able, under certain circumstances, to produce these sensations. But only very few and comparatively small portions of the bodily framework are competent to be affected in such a manner as to cause the sensations of taste or of smell, of sight or of hearing; and only a few substances, or particular kinds of vibrations are able so to affect those regions. These very limited parts of the body, which puts us in relation with particular kinds of substances, of forms, of force, are what are termed sensory organs. There are two such organs for sight, two for Learing, two for smell, and one, or more strictly speaking, two for taste.

11. And now that we have taken this brief view of the structure of the body, of the organs which support it, of the organs which move it, and of the organs which put it in relation with the surrounding world, or, in other words, enable it to move in harmony with influences from without, we must consider the means by which all this wonderful apparatus is kept in working order.

All work, as we have seen, implies waste. The work of the nervous system, and that of the muscles, therefore, implies consumption either of their own substance or of something else. And as the organism can make nothing, it must possess the means of obtaining from without that which it wants, and of throwing off from itself that which it wastes; and we have seen that, in the gross, it does there things. The body feeds, and it excretes. But we must now pass from the broad fact to the mechanism by which the fact is brought about. The organs which convert food into nutriment are the organs of alimentation; those which distribute nutriment all over the body are organs of circulation; those which get rid of the waste products are organs of excretion.

THE BLOOD.

· 12. Now the fluid containing the dissolved or suspended nutritive matters, which are the result of the process of digostion, traverses the very thin layer of soft and permeable tissue which separates the cavity of the alimentary canal from the cavities of the innumerable capillary vessels which lie in the walls of that canal, and so enters the blood, with which those capillaries are filled. Whirled away by the torrent of the circulation, the blood, thus charged with nutritive matter, enters the heart, and is thence propelled into the organs of the body. To these organs it supplies the nutriment with which it is charged; from them it takes their waste products, and, finally, returns by the veins loaded with useless and injurious excretions, which sooner or later takes the form of water, carbonic acid, and urea.

EXCRETORY MATTER.

13. These excretionary matters are separated from the blood by the excretory organs, of which there are three—the skin, the lungs, and kidneys.

Different as these organs may be in appearance, they are constructed upon one and the same principle. Each, in ultimate analysis, consists of a very thin sheet of tissue, like so much delicate blotting-paper, the one face of which is free, or lines a cavity in communication with the exterior of the body, while the other is in contact with the blood which has to be purified.

The excreted matters are, as it were, strained from the blood through this delicate layer of filtering tissue, and on to its free surface, whence they make their escape.

Every one of these organs eliminates the same products, viz., water, carbonic acid, and urea, or some nitrogenous compound of like import. But they eliminate them in various proportions—the skin giving off much water, little carbonic acid, and still less urea; the lungs giving off much water, much carbonic acid, and a minimum of urea, or ammonia (which is one of the products of the decomposition of urea); the kidneys separating much water, much urea, and a minimum of carbonic acid.

* * * * * *

14. The modes in which death is brought about appear at first sight to be extremely varied. We speak of natural death by old age, or by some of the endless forms of disease; of violent death by starvation, or by the innumerable varieties of injury, or poison. But, in reality, the immediate cause of death is always the stoppage of the cerebro-spinal nervous center, the lungs, or the heart. Thus, a man may be instantly killed by such an injury to a part of the brain which is called the medulis oblongate, as may be produced by hanging or breaking the neck.

In ultimate analysis, however, life has but two legs to stand upon, the lungs and the heart, for death through the brain is always the effect of the secondary action of the injury to that organ upon the lungs or the heart. The functions of the brain cease when either respiration or circulation are at an end. But if circulation and respiration are kept up artificially, the brain may be removed without causing death. On the other hand, if the blood be not aërated, its circulation by the heart can not preserve life; and, if the circulation be at an end, more aëration of the blood in the lungs is equally ineffectual for the prevention of death.

15. With the cessation of life, the every-day forces of the inorganic world no longer remain the servants of the bodily frame, as they were during life, but become its masters. Oxygen, the sweeper of the living organism, becomes the lord of the dead body. Atom, by atom, the complex molecules of the tissues are taken to pieces and reduced to simpler and more oxidated substances, until the soft parts are dissipated chiefly in the form of carbonic acid, ammonia, water, and soluble salts, and the bones and teeth alone remain. But not even these dense and earthy structures are competent to offer a permanent resistance to water and air. Sooner or later the animal basis which holds together the earthy salts decomposes and dissolves—the solid structures become friable, and break down into powder. Finally, they dissolve and are diffused among the waters of the surface of the globe, just as the gaseous products of decomposition are dissipated through its atmosphere.

The sun's rays acting through the vegetable world, build up some of the wandering molecules of carbonic acid, of water, of ammonia, and of salts, into the fabric of plants. The plants are devoured by animals, animals devour one another, man devours both plants and other animals; and hence it is very possible that atoms which once formed an integral part of the brain of Julius Cæsar may now enter into the composition of Cæsar the negro in Alabama, and of Cæsar the house-dog in an English homestead.

And thus there is sober truth in the words which Shakspeare puts into the mouth of Hamlet:

"Imperial Casar, dead and turned to clay, Might stop a hole to keep the cold away; Oh that that earth, which kept the world in awe,

Should patch a wall, t' expel the winter's flaw!"

EDITORIAL DEPARTMENT.



NEW YORK, JANUARY, 1870.

WATER.

"To the days of the aged it addeth length; To the might of the strong it addeth strength; It freshens the heart, it brightens the sight; 'Tis like quaffing a goblet of morning light.'

BG THE PUBLISHERS do not hold themselves as indorsing every article which may appear in THE HERALD. They will allow the largest liberty of expression, believing that by so doing this magasine will prove to be more useful and acceptable to its patrons.

BF Exchanges are all liberty to copy from this magazine by giving due credit to The Herald of Health and Journal of Physical Culture.

TOPICS OF THE MONTH.

BY M. L. HOLBROOK, M. D., EDITOR.

COMPLIMENTS OF THE SEASON.—On the first day of each dawning year, it is the custom of nearly all civilized men and women throughout the world, to address each other in salutations of smiling cheer and of good wishing. This is a beautiful custom. The earth would be a sad old home to us without such recurring occasions for gleeful and kindly communications. Yet beautiful as this glad custom is, it would be still more beautiful if the words in which its import is conveyed were not so often contradicted by the acts with which it is accompanied. A young gentleman enters the elegant drawing-room to make his New Year's call. The ladies, with ruby lips and bright eyes, smile their greet-

ing; and wishing a "Happy New Year" they proffer to him the wine glass, and give their enchanting sanction to a habit which will almost certainly make the new year a most unhappy one to the object of their hospitality.

This fashionable way of making the new year happy reminds us, as Mr. Lincoln used to say, of a little story. An order was sent not long since to a Chicago bookseller, which, among other things, called for "6 Primitive Christianity." The order was sent back with the response. penciled opposite that item, and not at all in jest: "No Primitive Christianity to be found in Chicage." So when we think of all the beautiful dames and damsels who, on this festive season. will wish young men a "Happy New Year," and then stimulate a fatal tendency to a ruinous. and dreadful passion, we are inclined to sav. " No Happy New Year to be found in this way of wishing it!" This part of our editorial compliments, therefore, the many ladies whom we number among our readers, will please to consider as meant especially for themselves. Oh, fair and gentle friends, do not in any mistaken obedience to fashion and superficial custom, permit yourselves to become allies of the . Tempter!

Turn we, now, from addressing our New Year's salutation to the ladies, to the utterance of a single remark to those of our many readers who are young men. Brothers! if you have heretofore celebrated New Year's Day by-assenting to the fashionable practice of sipping wine when it is offered to you on your calls, let us suggest the question whether you can afford to run the risk of beginning the year by toying with that syren habit? We remember a cartoon in Punch representing an English railway train as having just stopped at a station, and an old gentleman looking out of the window of his compartment in one of the cars, the door of which was fastened. A porter

stands by the door with his hand on the latch.
The following conversation ensues:

Old Gent (waking up excitedly)—"Hi, porter! where does this train stop next?"

Porter-"Don't stop any more, sir!"

Old Gent (excitedly)--"Not stop any more! Here, hi! Open the door! I'll get out here!"

Young gentleman, we commend to you the valiant resolution of the Old Gent on that occasion. In permitting yourselves to get aristocratically drunk on New Year's Day, you are gradually becoming a passenger on a train which, like that one in Punch, "don't stop any more." With reference to riding any further on this dangerous train, we earnestly advise you to say, at the opening of this newly-given year, "Here, hi! Open the door! I'll get out here!"

It may be that these words will meet the eyes of some young men who will be led by what we are saying to reconsider the whole subject of New Year's etiquette, and to act upon our We do not flatter ourself that suggestion. all will do so, however. We know the force of fashion. Many young men will reply to what we have said above, that "to refuse wine would not be genteel." Yes, even that butterfly view of the case will be prevalent with some. These young fellows remind us of St. Beuve, the great French critic, whose recent death has been so eloquently and tenderly mourned in Europe and in America, and who, it is said, was but once engaged in a duel. On that occasion it rained, and St. Beuve insisted upon hoisting an umbrella, declaring that while he had no objection to be killed, he would not permit himself to get wet. In a spirit quite as reckless, though far less witty as this, we suspect that many a young gentleman will say, as he starts on his round of New Year's calls, "I have no objection to be a drunkard, but I will not permit myself to be un-genteel!"

We have felt it to be our duty to mingle with our "compliments of the season" a certain modicum of moralizing. Yet, though our moralizing has been earnest, it has not been, we think, in a very lugubrious strain. We are not aware that sermons are improved by being delivered with a long face. With the utmost fervor of friendship, we now salute all our readers at the opening of this next chapter in the great book of our lives, and we wish them all a "Happy New Year." Yet we are very sure that their year will not be made happy simply by our wishing it to be so.

Much of the happiness of the time before us depends upon ourselves.

There are some elements of the problem that are, of course, beyond our management; yet the principal ones we can control. Certainly, the coming year will not be a happy one to us, in spite of all benedictions, unless we obey the laws of existence. Health must be ours; and in most cases, health is within our reach. Let us not be so frantically and artificially happy on the first day of the year, that we must be glum all the rest of the time. Cheerfulness, moderation, purity, intelligent deference to physical laws, kind feeling toward all creatures, reverence toward the Creator-these are the qualities largely within our own power of acquisition, and these are the qualities on which the happiness of the year largely depends.

There is now living in England a celebrated author who has reached a great age, but who is still as sunny, as merry, as hale, and as youthful as many a man of twenty-five. As we ponder the problem of a happy life, certain wise and beautiful sentences of this famous writer float into our memory and demand repetition here, among the "compliments of the season." This is William Howitt's recipe for having seventyfive Happy New Years. "For my part," savs he, "seeing the victims of fast life falling around me, I have willingly abandoned the apparent advantages of such a life, and preferred less popularity, less gains, the enjoyment of a sound mind in a sound body, the blessings of a quiet domestic life, and a more restricted but not less enjoyable circle of society. I am now approaching my seventy-fifth year. I can not, indeed, say, vigorous as I am, that I have reached this age without the assistance of doctors; for I have had the constant attendance of those four famous ones—Temperance, Exercise, Good Air, and Good Hours!"

To William Howitt's four famous doctors we recommend all our readers to apply for advice on New Year's Day, and then to follow that advice during every succeeding day of the year. Then we are certain that the year will be happy, not only while it is a new year, but when it gets to be an old one, also!

To us, already, the New Year opens with every promise of happiness. The Herald of Health grows with the time. It seems to be younger and stronger as each year passes. Our prospects are bright. Our contributors, both old and new, are full of power. Our list of subscribers insists upon the privilege of continually growing large. And we devoutly say, Amen!

MURDER - AFTER THE RICHARDSON THOUGHTS .- Perhaps no murder within the present generation, has so deeply moved the feelings of the people of this city as the shooting of Albert D. Richardson by Mr. McFarland. It is not our purpose in this place to enter into a discussion of the merits or demerits of either side of the question. This the daily papers have done far beyond what they had any right to do. But there is one thought which is suggested by the sad affair, which, while it has not been, ought to be considered. Mrs. McFarland had left her husband; why? Because he drank; because he shamefully abused her, and made her life unhappy. This is one answer to the ques-The other party deny these charges, and claim that Mrs. McFarland left her husband not because he was unkind to her, but because she did not love him, or loved another better. View it from which of these standpoints we will, we can not come to any other conclusion than this: that two persons had joined their hands in the sacred bonds of marriage who should never have done so. If he was a brutal husband, or if she did not love him, it matters not which, the parties made their first and great mistake in ever marrying at all, and this brings us to the thought that lies uppermost in our mind: that there are too many ill-assorted marriages in this world of ours. People rush at each other without sense or judgment, become husband and wife, father and mother, and then, when separation brings pain, heart anguish, and disgrace on both parties and on innocent children, they apply for divorce. Marriage is not made half sacred enough. We ought to surround this institution with all that is tender and sweet, pure and good in human nature; and to do so, young people must think well before taking this important step of choosing a companion for life. There cught to be some science by which parties might know before-hand whether two persons can live together happily or not. As it now is, instinct, caprice, fancy, passion decides the question; or, if Reason undertakes to act, she has no really reliable data from which to decide. If our philosophers, or scientists, or moralists would put their heads together and discover the true law of marriage, this would do vastly more for their age and generation than they can do with spectral analyses, Ecumenical Councils, or enthusiastic studies of comets and eclipses.

WHO ARE OUR EDUCATORS?-It is claimed by many that women are the true educators of the young. So they are, but that women are their only educators is an error. They require both male and female teachers to give the best education. Some things women can teach better than men, and some things men can teach better than women. Language, for instance, can be taught best by women, oratory by men; mathematics can be taught as well or better by women as men, and so can botany and history, but physiology, geology, and logic are taught best by men. Take it all in all, the influence of the sexes on the young is about equal. The woman teaches gentleness, refinement, delicacy, intuition. The man logic, science, energy. None of these virtues are of much use without the other. Of what use is gentleness without energy, or logic without intuition, or science without delicacy and refinement? It is thought by some that delicacy is synonymous with weakness. It is not. Delicacy and refinement are powers quite as valuable as any we can have, if coupled with those other powers that make the character complete. As it would be unfortunate for a young person to be instructed only by a man, so it would be equally so to be instructed only by a woman.

A PLEA FOR MONEY.—To preach a crusade indiscriminately against the universal desire and effort for the good things of the world, is to waste one's breath upon the empty air. Men will not listen to abstract arguments showing the folly of pursuing riches while they feel every hour the pressure of wants which money could supply, and the most eloquent sermon in praise of poverty provokes in our day but a sneer. Have we not learned that the desire to accumulate property is as truly a part of human pature, and plays as important a part in the progressive improvement of the species as the love of knowledge, the sentiment of duty, or the capacity for religion?

No want of man's nature can safely be neglected. The mind needs nothing so much as balance. The superstructure of personal character, to be symmetrical, should be built up on all sides at once. "The things the Gentiles seek after," meat, fire, and clothes, are as legitimate objects of pursuit as wisdom and virtue. To seek either to the neglect of the other betrays ignorance of the true conditions of wellbeing, and defeats the purpose for which life is given. Poverty is a condition which the wise man accepts only when forced upon him by inexorable necessity, or as the alternative of dishonor. He regards it a sore evil and burden, from which escape is to be sought by the use of all honorable means. Whatever may be said of the danger of riches, the dangers of poverty are a hundred-fold greater. A condition of physical want entailing habitual discomfort, if not settled discouragement and disease, is extremely unfavorable to the exercise of the higher functions of the mind and soul. The poor man is every hour beset with a thousand temptations which the rich never feels. If he is honest and sober, and humane, he deserves a word of praise.

If, in addition to these commonplace virtues, he maintains a serene and pious trust in divine Providence, his faith is great enough to remove mountains. For does it not require a strength of moral endeavor well-nigh angelic to keep the mind peaceful and pure, while the body is housed in a hovel, and meanly clad and fed? Nevertheless, this miracle is daily wrought out somewhere, through the power of religion. Still, if you or I, dear reader, under such conditions should try to live divinely we might miserably fail. Undoubtedly that was a wise prayer of the ancient prophet, "Give me neither poverty nor riches; feed me with food convenient for me, lest I be full and deny thee, and say who is the Lord? or lest I be poor and steal, and take the name of the Lord in vain."

No man should settle down with contentment in a condition of poverty, so long as there is a possibility of honorable escape. No man or woman should be satisfied with working for a bare subsistence while there is the shadow of a chance to do better. It is a demoralizing condition to be in, even though one's work should be noble. It exposes him to the danger of some day becoming a burden to his friends, or to the community in which he may chance to live. However beautiful and appropriate Christ's precepts about living without care or thought for the morrow may have been for the genial climate and simple manners of ancient Judea, they are certainly very inconvenient, and must be considerably modified when applied to actual life in these high latitudes, and amidst the merciless competitions of our times. These, like certain other precepts of Christianity, are to be regarded as "counsel of perfection," to be treasured in the heart rather than an inflexible rule for the conduct of life at all times. They are always, indeed, to be acted upon in spirit, yet not without regard to the circumstances in which we are placed, and the relations we sustain to others.

While, therefore, people will not heed, and ought not to heed the teaching which represents all objects as unworthy of pursuit which are not purely spiritual or ideal, they are generally

open to that sort of instruction which, while it recognizes and honors every part of human nature as divinely created, aims only to repress those tendencies which are excessive. And few there are who will not readily admit that mankind, through the weakness of their moral desires and intellectual aspirations, are liable to neglect the permanent spiritual interests of existence in their absorbing pursuit of those forms of good which perish with the using.

The relative importance of wealth increases with each successive generation. For human life, as the race progresses in knowledge and general culture, is continually growing more rich in opportunities and enjoyments. Money is the grand instrument through which one is to be put in possession of these. Its value, therefore, never was so great as at the present time. With a given sum of money a man can surround himself with ampler means of enjoyment, secure a more varied and nobler culture, or set in motion grander schemes of usefulness than at any preceding period in the world's history. Correspondingly, never was the lack of money so heavily felt as by those of the present generation. Never was poverty so hard to bear and attended by so few compensations as now.

These remarks apply to life in all enlightened countries, but they have a special significance taken in connection with the peculiar conditions of social life here in the New World. Under our system of free government, aided no doubt by the vast area and marvelous richness of our national territory, the active powers of man are unfolding to a degree of breadth and intensity hitherto unattained. No field of enterprise or adventure which our countrymen do not boldly invade; no triumphs of art, no flights of invention, no conquests of mind over matter, which they do not attempt or hope to achieve. Nowhere else on the face of the globe is life so rich in possibilities as here in republican America. Nowhere else is money so much needed, to seize upon and work up the opportunities that are continually presented to private and public enterprise.

It would not, therefore, be strange if, under

the pressure of constant temptation, the appetite for gain should have grown to be unduly active and influential in the minds of our countrymen. It would not be strange if our best endeavors should appear to have run into an excessive and feverish pursuit of the means of living. And in fact, is not this, in the main, a just characterization of our social life? Practically, is it not regarded as the grand function of the American citizen to make and to spend money? Have our people, as a general rule, any higher or ulterior purpose in living ! And yet it remains for ever true, that life is more than the means by which it is sustained-more than food, raiment, dwellings, lands, merchandise, stocks, bonds, dividends. All things are for the mind, and if this nobler part come not to honor, dignity, and self-possession, the most royal furnishings only serve to set forth, by contrast, its deep poverty and servitude.

DECAY OF FAITH.—The Philadelphia Medical and Surgical Reporter for November 6 publishes an editorial upon Vague Therapeutics, which is full of meaning. It declares that the "decay of faith in drugs has had a disastrons effect on the profession, as well as on the patient. It has led students to disregard Therapeutics and Materia Medica in favor of diagnosis and do-nothingism, which latter soon brings on know-nothingism. The divorce of Pharmacy from Medicine—a most disastrous separation for both arts—led to an ignorance of drugs, and this ignorance has naturally brought about a disuse of them."

The fact which gives sadness to the Editor of The Reporter fills us with delight. The people may rest assured that the regular practitioner would never give up his faith in drugs, did he not daily discover in practice their inefficiency. We meet every day regular practitioners who tell us frankly they give little medicine, and would give none if their patients would be satisfied. We see patients constantly who have put their faith in drugs till their bodies were walking apothecary shops, and they showed evidence in their persons that they

had a perfect right to lose their faith in the medicines that made them worse. The truth is, the people are gaining knowledge, and their knowledge is making them free.

We are confident that the writer of the article referred to can not show any disastrous results from the decay of faith of which he mourns. Faith in drugs prevents faith in Nature and Hygiene, and good care, and we regard the latter as of greater worth than all the drugs in the world.

SOME ERRORS CORRECTED. - LETTER FROM DR. F. R. LERS .- TO THE EDITOR OF THE HERALD OF HEALTH-Dear Sir: In perusing some numbers of your periodical I noted errors that seem worth correcting. The passage on "Oatmeal," page 38, attributed to Dr. Letherly, belongs to Dr. Letheby of London. At page 25, column 2, "oppression" is put for "expression." At page 66, in article on the "Grape Cure," an idea of fanciful Dr. Curchod's is reproduced, having been previously adopted, page 29-the notion that the products of digestion are similar to the products of vinous fermentation. The contrary is the case. Nor is it true, as stated at page 28, column 1, that the elements of glucose are "distributed from the lungs" through the circulatory system. The glucose is decomposed in the capillaries, not at the lungs, whose function is simply to take in oxygen and eliminate carbonic acid. The lungs are not, like a stove whose fuel is burnt, hotter than the pipes which distribute the heat. It is, besides, a partial reproduction of Prof. Johnstone's ignorance, who represents carbonic acid as a necessity of the system, instead of the expulsion of it! For the decomposed elements of glucose-of which carbonic acid is one -are not distributed into the system, but expelled from it.

To say that the change of grape juice in the system is "similar to the process of fermentation by which must becomes wine," is simply ridiculous or misleading.

In that last process albumen rots and becomes yeast (which is incapable of assimilation), and sugar becomes alcohol and carbonic acid; but the albumen of grape juice in the body becomes the albumen of the blood, and the tissue of the body itself; while the sugar never changes in the system into alcohol or any of its peculiar derivatives-whatever Mr. Evans may affirm, or Dr. Curchod may fancy.

I have frequently visited wine countries—Vevay included-and I have seen much drinking and drunkenness; and have found that there, as here, most of the crime, lunacy and pauperism, results from the use of wine and eas de vie. Not so much perhaps as here, because the people have not the means of buying so much. The temptations to drinking do nothing but harm; and when I was last in those parts, I observed that a tale expanding the evils of drinking was running, by chapters, through the most popular papers. Stern statistics show the greatness of the evil, even in Switzerland; and in several cantons they have adopted a permissive prohibitory law-a fact which is more significant than any Traveler's Tale.

EVENING SOCIABLES AT No. 15 LAIGHT STREET .- The proprietors of the Hygienic Institute, have inaugurated for the benefit of their guests and patients a series of entertainments for the present winter evenings, which have so

F. R. LEES.

far been well received and popular. The first was a lecture on Physiology, by Mrs. D. Lyman of New York, to which was added Elecutionary Exercises, by Prof. Lyman.

Both are well known to the public as lecturers. Mrs. Lyman is doing a good work in the city this winter by her lectures to ladies, which are both popular and interesting.

James T. Clark, the poet, composer, and sweet singer, sung for us one evening, greatly to the delight of all our guests.

Mrs. Anna Randall, one of our most popular readers and teachers of education, has also given us an evening of great pleasure, and we hope to listen to her again during the winter.

Others have promised to help us in making life pleasant here, of which mention will be made hereafter.

We will mention in this connection, that our parlors have been improved by the addition of one of Bradbury's best pianos, the music of which helps to make time enjoyable and our friends happy.

THE GOSPEL OF THE GALLOWS.—In the early autumn of 1869, a murder unusually tragical and pathethic was committed in the city of Detroit. The whole town fairly rocked with excitement. Threats of lynching were made, and a great crowd assembled around the jail by night, as if with the purpose of taking out the murderer and suspending him from the lamppost. In the midst of this popular frenzy, one of the Orthodox clergymen of the city preached a sermon in favor of hanging, having previously announced, through the papers, his purpose so to do. It seemed to the good man that the public mind, being aroused to an abnormal condition of rage and vindictiveness, were in a fit state to receive a fresh installment of the Gospel of the Gallows. The sermon was neither very bright nor very able; but as there were inflammable materials lying all about, it did not take much of a spark to make quite a blaze. From that time almost to the present, an active discussion in Michigan has been going forward, partly in the pulpit and partly in the press, upon the whole subject of capital punishment; a discussion into which we notice that some papers, even in New York, have been drawn.

This discussion has many practical issues in Michigan, and elsewhere. It is of great interest to the people of that State, because twenty-three years ago its Legislature decreed the abolition of the death penalty; and an attempt is occasionally made by a few kind souls, hankering after the old Jewish regime of blood for blood, to revoke that enlightened action. The discussion is of great interest in other States, either for a similar reason, or because there is a growing desire to remove from the statute books this barbarous edict of death.

For twenty-three years its people have lived without the protection of the gallows. Have any frightful consequences followed? Has life been more insecure? Has the State become the paradise of assassins? Does murder riot and revel there under the hope of impunity? Quite the contrary. Its criminal register will compare favorably with that of any other community in the world. Life is environed there by no peculiar perils. As one of its Ex-Governors has recently stated, "for almost an entire generation of men has this State refused to shed human blood; and has proved to the world, by noble example, the safety of humanity in law?"

For our part, we think that they make a great mistake who deny the right of society to protect itself by taking away life. The safety of society is the supreme law. Society has a right to make war, to take property, liberty, life, or whatever else may stand in the way of its security. To deny this for the sake of doing away with capital punishment, is to take untenable ground. It is bad generalship, for it fights the battle on the worst field. The argument against the death penalty is strong enough without the help of this position, even if it were a good one.

Granting, then, that the State may inflict the death penalty, if it be expedient, we have next to inquire, Is it expedient?

We say No, for the comprehensive reason that all the ends of society can be better secured without it.

That sentence, of course, involves all the points at issue. Over that sentence the battle must be fought.

Let us examine a few of its principal points:

that is, society itself could not be held together unless it satisfied, on the whole, in its treatment of criminals, the sense of retributive justice implanted in our natures. That is a legitimate instinct that tells us that a wrong-doer ought to be punished. It will not do to dispose of this by calling it the spirit of revenge. It is the spirit of justice; and men will not long agree to live together in society unless in the legal conduct of society this spirit is satisfied. If the infliction of punishment is obviously inadequate, or obviously excessive; in either case,

society itself is endangered. If a criminal be over-punished, society is demoralized by having its indignation turned into sympathy. Now, in the present development of human nature, this is precisely what is done in the vast majority of cases in which the death penalty is inflicted.

Frederick Robertson has said, "I feel persuaded that society is fast approaching to a state in which it will be perilous to the morals of the community to retain the practice much longer. Symptoms of disgust and sympathy are beginning to be manifested so generally, that it is only in atrocious cases, where a feeling of revenge for a horrible cruelty satisfies itself with the criminal's death, that deep murmurs of dissatisfaction can be suppressed."

On the other hand, while the death penalty outrages the sense of justice, by exceeding it; imprisonment for life, at hard labor or in solitary confinement, is felt to be so terrible a punishment as not to fall below the requirement of justice.

2. As society can not be held together unless it satisfies the general sense of justice, neither can it be held together unless it satisfies the general sense of security. If the units of whom civilization is composed do not feel that they are protected by association they will fly asunder; each man will be his own protector; thus civilization will dissolve into savagery. If the death penalty be necessary to this sense of security, let the death penalty be inflicted. But it is not necessary. Experience amply shows that it is not necessary. If life were insecure in Michigan immigration to that State would cease, while many of its actual inhabitants would flee from it as a place of danger. But how is it? No human being, we venture to assert, ever gave up the plan of removing to Michigan because capital punishment does not exist there. Its population has increased with amazing rapidity since 1846. One ounce of fact is worth a hundred pounds of theory. The theorist declares that capital punishment is necessary to the sense of security, but the case of Michigan alone disproves the statement. When on a journey westward, do you feel any more secure from murder on the Great Western

Railway in Canada, where they hang, than on the Michigan Central, where they do not hang?

Imprisonment for life is sufficient to deter from murder any man who would be deterred by any consideration whatever, while it proves an even greater safeguard than capital punishment, because the prevention of crimes depends more upon the certainty of punishment than upon its severity. On this point an ancient jurist of Michigan has made the following statements: "Before the offender can be hanged he must be convicted. Under the humane statute of Michigan conviction is quite easy, since opportunity is left for the correction of errors and mistakes. Jurors are not put under the painful apprehension that if they should chance to misjudge, as all men are liable to do. an innecent man might be sent to the gallows, and a piece of cruelty enacted that should move the pity of both men and angels. Under the laws which denounce death against the criminal, however, the case is very different, and convictions are hard to be obtained.

When the juror knows that his verdict of guilty means death to the culprit, he will hesitate long before he renders it. The plea of insanity has become most common and formidable in capital cases, for the reason that the question of soundness of mind is always one of great difficulty, and the law gives the benefit of the doubt to the defendant. But this formidable plea has ceased to avail any thing in Michigan, except when it can be clearly made out. The courts and juries feel that if they are mistaken, the future will develop the fact and the accused will not be beyond the reach of hope.

The probability of conviction in a case for murder in our State, as compared with those States where the death penalty exists, are more than five to one."

But in our opinion, there is under this head another consideration still more convincing: it is for the law to set the example of the sacredness of human life. Say what we will, hanging, whether justifiable or not, is a spectacle of desecration. The illustrious English

statesman, John Bright, has put this thought into noble expression: "Barbarism in the law promotes barbarism among those subject to the law; and acts of cruelty under the law become examples of similar acts of cruelty, done contrary to the law. The real security for human life is to be found in reverence for it. If the law regarded it as inviolable, then the people would begin also so to regard it. A deep reverence for human life is worth more than a thousand executions, as the prevention of murder."

Let society inspire all its members with this hallowing sentiment, by showing, in its most august and terrible functions, how great and good a thing it is to revere

"the breath we hold with human kind, And look upon the dust of man with awe."

PUDDINGS, AND HOW TO MAKE THEM.— Mrs. Dr. L. A. Jenkins, who has given us so many valuable recipes for healthful food, sends the following on puddings:

FIG PUDDING.

Take half a pound of best figs, washed and chopped fine, two tea-cups of grated bread, half a cup of sweet cream, half a cup of white sugar, and one cup of new milk. Mix the bread and cream, add the figs, then the sugar, and, lastly, the milk. Pour the mixture into a mold, and boil four hours.

' Eat with a liquid sauce.

APPLE CUSTARD.

Peel, quarter, and bake rich tart apples, or stew them slowly in a very little water; fill a pudding-dish two-thirds full. When cold, pour over a custard made by stirring into a quart of boiling milk a table-spoonful of flour wet up with a little milk, two spoonfuls of white sugar, and two eggs. Flavor with lemon. Bake in a quick oven.

To be eaten cold.

TAPIOCA PUDDING.

Soak a tea-cup full of tapioca in three and a half cups of boiling water, and two spoonfuls of white sugar. Keep it in a warm place for three

hours. Fill a two-quart pudding-dish three-fourths full of rich, ripe tart apples, peeled and quartered. Pour the tapioca over the apples and add half a tea-cup of cold milk to brown the tapioca. Bake one hour.

SAGO PUDDING.

Pick over and wash a tea-cup full of sago; pour on nearly a quart of boiling water; add a half tea-cup of sugar, and a little milk, if preferred, to brown. When cold, pour it over the apples, or mix the two together in a pudding-dish and bake an hour. Cover the dish the last half hour.

PARINA PUDDING.

Sprinkle two-thirds of a tea-cup full of farina' slowly, into a quart of boiling water; add half a cup of white sugar, and a cup of milk. Mix thoroughly, and pour it into a pudding-dish, in which a quart and a half of nice tart apples, peeled and quartered, have been put.

Or, mix the apples and farina together. Two tea-cups full of pitted raisins, previously stewed, may be substituted for the apples. Bake one hour.

RICE AND APPLE PUDDING.

Pick over and wash a tea-cup full of best rice. Steam it, until tender, in two cups of cold water; spread it over a quart or three pints of good ripe apples, quartered; pour over one or two cups of milk, if preferred, or omit the milk and add a little water to the apples. Half a cup of white sugar may be sprinkled over the apples, or sugar may be added at the table, if preferred.

To an unperverted appetite, this and several of these puddings will relish without the sugar, or indeed the milk, if carefully baked, and if rich apples are used.

A good rice pudding is made by stirring two cups of pitted and stewed raisins into the steamed rice, milk and sugar, and baked an hour.

BLANC MANGE AND FRUIT PUDDING.

Boil for a few moments six spoonfuls of dissolved corn-starch in a quart of boiling water. Pour it immediately over a quart of ripe peaches, previously peeled and quartered and placed in a dish with sugar sprinkled over them.

To be eaten cold.

Instead of peaches, mellow pears or apples, or stewed quinces, ripe plums or cherries, or marmalade or jam may be used.

Instead of the corn-starch, five spoonfuls of fine flour, or, still better, graham flour, with or without an egg, may be substituted.

RICE PUDDING.

Wash thoroughly a tea-cup full of best rice, add half a cup of white sugar, a quart of water, and the same of milk. Bake slowly four hours, stirring occasionally, except the last hour. A cup of raisins is an improvement.

HYGIENIC TREATMENT OF DOGS.—LETTER FROM DR. DIO LEWIS.—"DR. HOLBROOK—Dear Friend: You will remember Pennie and Jessie, our pet dogs. They are well, thank you, and Jessie lies in my lap while I write this note. Never have I met among my human friends such untiring devotion as these little friends have lavished upon me. (An Express receipt lying on my table is ornamented with the picture of a dog, to give the Company's highest idea of fidelity.) What can be the reason for the general dislike of dogs? Why are scamps spoken of as "lying dogs," when the dog is the highest expression of truth?

When we recall that wherever we find the skeleton of the primitive man, in the old caves, we find lying beside it the skeleton of a dog, his faithful companion in life and death; when we recall the important contributions the dog has made to civilization; when we observe the constant proofs of his unflinching devotion seen on every hand, the common contempt seems strange and hard.

Numerous utilitarian skinflints propose to kill the dogs, because a few sheep have been killed by them. For my part, I had rather have one good dog than half-a-dozen sheep. The sheep help to keep our bodies warm, but higher than this service, the dogs keep our hearts warm. If

there were not room for both, and we were obliged to choose between enjoying dogs and freezing to death for lack of wool, I would join the dog-killing party; but no such alternative exists. The sheep killing has been made the excuse for giving vent to an existing hatred toward these poor creatures. I give notice that I shall defend my dogs when the killers come.

But what I had in mind to say when I took up my pen was, that we cruelly torture these speechless creatures by failing to provide them with water. A part of the year we, in Boston, provide dogs with abundant supplies, in a very simple, Christian way, at the drinking fountains, but during all the residue of the year we give them not a drop. With opportunity, a dog will drink five to ten times a day even during winter, but there are thousands that get no water for days, and even weeks, when the outside supplies are frozen up. And I may add, thousands die of the fever which a long protracted, torturing thirst produces.

In our house we have a bowl, always filled fresh every morning, so placed that our dogs have easy access to it. And although they are very small they consume a pint a day.

Feeding them once a day only, upon good beef or mutton, and never neglecting the water supplies, they have not had a sick hour during the year.

On behalf of civilization, a man could hardly be engaged in a more Christian work than multiplying fine dogs. Loving, perpetual babies, they are a well-spring of joy to the Christian home.

Not only have the sweetest poots striven to respond to the love of the dog; not only have these faithful ones striven in their dumb, patient way to teach us the lessons of love and faith; not only do they embody some of the noblest sentiments of the human soul, but in that beautiful future, they will enjoy with us the peace and rest which the good Father holds in reserve for truthful, loving, harmonious souls.

DIO. LEWIS.

Boston, Mass., Dec. 5, 1869.

How to Treat the Sick.

CHOLERA INFANTUM AND DYSENTERY.—
Dr. A. G. Humphrey of the Western Health
Institute, Galesburg, Ill., sends us the following
case which recently came under his care. It
was of a child ten months old.

The child was attacked with cholera infantum, September 15, 1869. The village doctor was called, and the little sufferer was drugged for a week with no good results. Then an older physician was sent for, who changed the medicine, but thought the diarrhea could not be stopped until cold weather.

The combined skill of both doctors did not check the disease. At the end of two weeks dysentery set in, the child having bloody mucus discharges every hour; this continued for more than a week, when dark bloody passages began to appear. The old doctor at this stage prescribed a new remedy, consisting of lime water and milk, a quart to be given every day, in addition to the powder every hour, and nursing every two hours. The little sufferer, with more instinctive wisdom than the doctor possessed, persistently refused to take even a tea-spoonful. A few days later and fresh red blood passed in great quantities of half a tea-spoonful every hour.

The young doctor now said something must be done immediately, and hastened to his laboratory to prepare the curative (deadly) dose.

Meantime, the friends were consulting with reference to a change of doctors, and decided to send for a Hygienic physician.

I arrived at 8 o'clock on Friday morning, the fourth week of the child's sickness. Found it having the red bloody discharges, occasionally mixed withdark bloody mucus; terribly collapsed state of the bowels; its mouth and teeth were turned black, and all over the abdomen and ribs the skin was turned to a dark purple hue, as though mortification was taking place; the respiration was exceedingly labored, causing a desperate reaching of the head for every breath she

drew, and had been constantly moving for three weeks.

I commenced treatment with very little hope of saving the child. Gave small cool injections, and gave fomentations over the entire front part of the body, followed by cool applications. Took her in my arms and carried her gently in a cool room, and soothed her most tenderly, with the softest sounds I could produce to induce sleep. In a few hours the hemorrhage was stopped, the respiration improved, and sleep more natural. She appeared to improve, in all respects, until the afternoon of the second day, when her respiration became suddenly labored, the eyes set, and the muscles relaxed. I considered her dying. In an instant, I gave her a fomentation across the diaphragm for ten minutes, followed by cool applications. This revived her a little, but soon she sank away again and respiration stopped. I quickly placed my hands upon her sides, and gently imitated respiratory motion. In a moment she gasped, caught her breath, and gradually recovered from the spell.

Each of the following days she had a similar paroxysm, passing through nearly all the phenomena of death; beginning with the long reaching of the head for the inspiration, and moving with the expiration, which grew shorter and shorter, until the chin only moved; the muscular contortions were as completely death-like as any I ever witnessed.

For five days and nights I gave constant personal attention to the apparently-dying child. Of the many little things I did, every application was observed, by all who witnessed the treatment, to have always an immediate good effect.

On the morning of the fifth day of my treatment, strong hopes was entertained of her recovery. From the first of my care of the case, not a drop of any thing passed its lips except pure water and a little of its mother's milk, once in four hours, regularly. The fifth day she was carried in the open air, and each day afterward she was placed in her cab and drawn on a south verandah three to four hours, at intervals of half an hour to an hour and a half each.

The parents and friends feel as though this little one was handed back to them from the very verge of the grave.

Thanks to the incomparable superiority of the Hygienic over all the other medical systems of the world.

Let THE HERALD OF HEALTH continue to disseminate a knowledge of the true healing art, until all learn this simple but effective system of relieving and curing all the diseases that afflict humanity.

TREATMENT OF ODOROUS FEET .- Many persons have feet which emit a very disagreeable odor, and do not know how to treat them The cause generally lies in little ulcers between the toes, or a diseased condition of the skin, caused by the toes being pressed too closely together and deprived of air and light. In many cases the difficulty baffles all efforts to remove it, and remains for life. The best remedy for this condition is to go barefooted during a few months in summer, when the toes will spread. and the air and light will produce a healing effect. Where this is not practicable, the dry earth cure is nearly as good. Occasionally cover the surface between the toes with a coating of this dry earth. It will at once absorb the offensive odors, and then healthy granulations will take place, when a new skin will be formed and health result. Washing the feet in warm water, soap and water, etc., is not in this case sufficient, as this does not destroy the surface that secretes the poisonous matter which is so offensive. Still another good application, and one that at once destroys the odor, is an application of carbolic acid diluted in water.

A Good Prescription.—The Medical Investigator calls the following a Homocopathic prescription.

A handsome young widow applied to a physician to relieve her of three distressing complaints with which she was affected. "In the first place," said she, "I have little or no appetite. What shall I take for that?" "For that, Madam, you should take air and exercise." "And, Doctor, I am quite fidgety at night-time and am afraid to be alone. What shall I take for that?" "For that I can only recommend that you take a husband." "Fie! Doctor. But I have the blues terribly. What shall I take for that?" "For that, Madam, you have, besides taking the air and the husband, to take a newspaper."

TRAVELING WITH CHILDREN.—Children will bear the fatigues of a journey quite as well as grown people, if they are properly cared for. In the first place, do not try to keep them too still. Their little bodies are all life and motion, and repose while awake is impossible. It will weary a three-year-old child more to keep still an hour than it would to play half a day. A worse practice still is giving children cakes and candies while on a journey. Plain, wholesome fare at regular intervals is all-sufficient. moderate allowance of good fruit is well. The constant gormandizing of children with cake, candy, and fine food is almost certain to result in fever and irritability, and sometimes in death.

College Students and Tobacco.—A large number of the students of all colleges use tobacco: Their education does not go deep enough to prevent it. In Oberlin, Chio, however, it is said the students do not use it. The reason for this strange conduct on their part is said to be because there are so many lady students in the institution. If so, here is another strong argument in favor of educating the sexes together.

A VALUABLE CIRCULAR.—See valuable circular of Hygienic Institute and Book Circular bound with this number.

ANSWERS TO CORRESPONDENTS.

BY A. L. WOOD, M. D.

Treatment of Whooping Cough.

—" Will you please state through Tax Herald what is the proper treatment for whooping cough? It is the prevailing disease among children here, and if relief can be had from the violent paroxysms of coughing, 'twould be a decided blessing, both to the children and their mothers."

Mild cases of whooping cough and the first stage of more severe cases require treatment varying but little from what healthy children should receive. The diet should be plain and unstimulating, and great care be taken not to overload the stomach. The bowels must be kept free and regular by proper food when possible; when not, by water enemas. Engorged stomachs and constipated bowels greatly aggravate the severity and danger of this disease. Only pure, soft water should be allowed for drink, and that may be taken freely, except at and soon after meals, with good results. As much out-door exercise as possible, short of fatigue, should be taken daily. A plentiful supply of pure air at all times is indispensable. Confinement in over-heated rooms must be avoided, as it predisposes to colds. Free exposure to sunlight is important, and no room should be occupied, by night or by day, wherein the direct rays of the sun can not freely enter. A cool sponge or towel bath over the whole body should be taken daily, in a warm room, and followed by thorough rubbing and friction. Bathing the chest with cold water, followed by friction till the skin is rad, will prove very useful, and may be done two or three times a day. In short, the treatment should be directed to the invigoration of the system, and to the improvement of the general health.

In severe cases, attended with fever, pain, heat, and soreness in the chest, difficult breathing, and severe paroxysms of coughing, the treatment must be adapted to the existing conditions. The fever may be allayed by the wet-sheet pack, or by tepid spongings of the body, repeated until the fever is reduced. Care must be taken to keep the feet warm. Where there is pain, heat, and soreness in the chest, cloths wet in cold water should be applied to the chest and rewet as often as they become thoroughly warm; or a jacket made of two or three thick-

nesses of linen, or heavy cotton cloth, and covering the whole chest, may be wet and worn as above, rewetting as often as it becomes warm. In cold weather there should be enough flannel worn over it to keep up a comfortable degree of warmth. To relieve the paroxysms, drink freely of warm water, to the extent of producing vomiting, if necessary.

Treatment of Burns and Scalds.

—"What is the proper Hygienic treatment of burns and scalds?"

If the burn or scald is a severe one, occasioning a general fever, it must be reduced by general bathing, suited to the conditions and strength of the patient. If the skin is not removed, all the local treatment necessary is to keep the part covered with soft, fine linen, wet with water, at a temperature most agreeable to the patient. When the skin is removed, some substance must be applied to keep the air from the exposed surface beneath, until the injury can be repaired. Fine, moist clay is one of the best materials for this purpose. If this can not be obtained, use a thin covering of fine flour, covered with a wet cloth. When it becomes loose, remove carefully, wash with warm water, and apply another coating of flour.

The discovery has recently been made in France, that covering the burned surface with varnish is a very successful mode of treatment. I have not had an opportunity of trying it, but the plan looks reasonable, and I should expect the greatest success from its use. I should be pleased to hear from any one who has tried it.

About Water Supply-Pipes.—"What can I use as a water supply-pipe? Is gutta percha the best? How is galvanized iron? Is there not mischief in it, or in the zinc used to whiten it? Pure block tin is not to be had, for they will mix lead with it when the pipe is drawn, in order to make it more ductile. Is rain water, running through lead goose-necks from a roof, with sheet lead round the chimney (as is usually the case), preferable to well water as a drink?"

It yet remains for some one to achieve fame and fortune and confer an incalculable amount of good upon the race, by inventing water supply-pipes which shall possess the following requisites: 1. Entire freedom from corrosion by any and all kinds of natural waters; 2. Exemption from the action of air and moisture and a moderate degree of heat; 3. Flexibility, strength and ease of joining; 4. Cheapness. The nearest approach to this standard, at present, is the tinlined pipe. The objections to the tin-lined pipes are: 1. Where joints are made, the tin and lead come in contact with the water, and then, owing to galvanic action, the corrosion of the lead is more rapid than if tin was not present; 2. The tin lining is liable to cracks and flaws, which allow the water to come in contact with the lead, with the same result as at the joints; 3. There are some waters that rapidly corrode the tin itself, when it is not in contact with lead or other metal. If, as this correspondent states, lead is mixed with the block tin to make it more ductile, this is still another and more serious objection. Gutta percha will not withstand the action of air and moisture, and is consequently useless. Iron rusts, and, if galvanized, the water dissolves the zinc coating. The answer to the last question depends upon circumstances. If the well water is pure and soft, then it is preferable. If it is hard, choose the rain water, and filter it. If we adopt the rule not to use water which has stood or been long in contact with metal, we shall escape with slight injury.

Treatment of Frozen Flesh.—Keep the surface of the frozen part at or near the freezing point - 32° Fahrenheit - until it is thawed out by the heat from within the body. Remember this, frozen flesh should be thawed from within, not from without. The reason is this: If the melting commences by the action of the warm arterial blood, at the deepest part, the frozen blood, as soon as melted, is carried away by the veins without rupturing the delicate network of capillary vessels which form the connecting link between the arteries and veins. If, instead, the thawing commences upon the surface, the blood, as it becomes liquefied, will remain upon the outside of the frozen part, as the vessels which should convey it away are still frozen up. This blood soon changes its color, expands with the heat, and causes intense pain, and is liable to burst the little capillary vessels which contain it. The best way to keep the surface of the frozen part at the desired temperature, is to keep it in water in which there is a considerable quantity of ice or snow until it becomes entirely thawed out from within. Frozen flesh should, on no account, be rubbed. The frozen part is filled with minute vessels, running in every direction, each one of which contains

an icicle. Now if the part is rubbed, the effect is to break these minute icicles into thousands of pieces, and each piece has its sharp corners, which are forced through the walls of the vessels, tearing them to pieces, and lacerating the flesh, so as always to cause great soreness, and oftentimes disorganization and death of the part. While rubbing the frozen part itself should be carefully guarded against, it is useful to rub the adjoining parts, as it greatly promotes the circulation of the blood, and hastens the thawing in the natural way.

Laws of Health.—"In your excellent Herald of Health you mention many times the importance of knowing and obeying the laws of health. (I find it is difficult to do a thing until you first learn how it ought to be done.) I, with numerous others, would be only too glad to obey and practice the laws of health, if you would only state what those laws are."

To teach the laws of health and the penalties attending their violation, so far as known, is one of the primary objects of The Herald of Health. If searchers after knowledge in this direction will carefully read and study its teachings from month to month, they will not complain of the want of light upon this subject.

Be Regular.—If you would enjoy good health, be regular in all your habits. Have regular times for eating, and cat at no other times. Whatever system you adopt—one, two, or three meals per day—be regular about it. Do not eat two meals one day, and three the next. Better eat three meals every day. Retiro and rise at regular hours. Have a regular time for exercise. Arrange your work, whatever it may be, so that it can be attended to during certain hours, and have other regular hours for recreation, study, etc. In short, have a regular time for every thing, as far as possible, and let every thing be done at the appointed time.

Herald of Health for 1869.—"Please inform me if I can get the numbers of Tub Herald for this past year, 1869, at a reduced price?"

We have but a few full sets left, and those we have had bound in cloth. We will send a copy, prepaid, by mail, for \$3.

Catarrh.—In answer to several queries, I would say that an article on the treatment of Catarrh may be found in the May number of The Herald of Health for 1869, page 235.

NOTICES OF NEW PUBLICATIONS.

MOBAL, INTELLECTUAL, AND PHYSICAL CUL-TURE; OR, THE PHILOSOPHY OF TRUE LIVING. By Prof. F. G. WELCH, Instructor in Yale College. New York: Wood & Holbrook.

This new work is worthy of special consideration, and we are glad to give it an extended notice. Though its need has long been felt, it is the first of its kind published in this country. It is thorough, comprehensive and practical in every page. The author has had a single object in view—to do good; his book has only to be read to accomplish this successfully. It is written in such a pure, true, and brave spirit that none can road without interest and profit, nor turn from its pages disappointed. All should read it: the well, that they may know the value of that priceless boon—health, and how to retain it; the sick: that they may learn the cause of their trouble and oure it.

The title explains the character of the work and its mission. We have here four volumes in one. Part I gives full and explicit directions how to build and equip a gymnasium, after the most approved style. To the many colleges, schools, societies, clubs, and individuals who are just now giving Physical Culture its proper and deserved place, this department will prove invaluable, and enable them to greatly improve their gymnasium and apparatus, and save, perhaps, thousands of dollars.

But it does not stop here. It is not probable that any one in our country has had a more extended experience or done more for the physical weal of mankind, in this way, than our author. He has labored assiduously for years, and has succeeded in accomplishing the difficult task of investing and developing a most admirable system of about five hundred exercises, thereby rendering what was before difficult and dangerous, now easy and physiological. The uses of each set of apparatus is explained. This department also contains Forty Weeks Exercises, systematically arranged for the college or school year. The "Home Gymnasium," or twenty-five exercises to be performed at home without the aid of any apparatus. An "Essay on Training" with the Old and New Method; "Rules for Correct Training," etc. And a system of seventy-five heautiful exercises with the Indian Club.

Part II embraces Dr. Dio Lewis's complete system of Light or Musical Gymnastics, with many additions and improvements. Here, too, the author is fully at home. He was among the first to imbibe the enthusiasm of Dr. Lowis, and has been, ever since, his warm friend and supporter. He has been an enthusiastic teacher in this to thousands of both sexes, and has a normal class for teachers every summer. The author has invented a system of "Short Hand," to facilitate the learning of all these exercises in a very short time. The whole system is here compressed in a nutshell.

This department contains also an Essay upon the various systems of Gymnastics. An Address to Teachers, and many valuable hints and suggestions to teachers and pupils. No one is better qualified to speak of the othings than the author, and the following autograph letter of Dr. Lewis calling attention to this book will speak for itself:

"Gentlemen: This book, full of Prof. Welch's singular purity and earnestness, is not only an admirable guide in Physical Culture, but most fruitful of suggestion in the sental and moral spheres.

Prof. Welch is playing an important part in America's

attempt to give place and dignity to physical education. He deserves well of his countrymen, and has already secured recognition as an active force in the great revolution now in progress.

I watch his labors with the liveliest interest, and shall continue to rejoice that we have in the van a leader so wise, just, and enthusiastic.

Yours, truly,

DIO LEWIS."

The best recommendation of Part III is to give the headings of the subjects treated:

I. Health. II. The Body. III. Physical Culture. IV. Bathing. V. Air and Ventilation. VI. Food—Eating and Drinking. VII. Sleep. VIII. Fashion. IX. Beauty. X. Amusements and Excesses. XI. Man. XII. Woman. XIII. Husband and Wife. XIV. Parents and Children. XV. Religion. XVI. Education. XVIII. Manners. XVIII. Character. XIX. The Physician and Medicine. XX. Voice Culture. XXI. Hints and Rules.

The subjects certainly are worthy, and they are treated in a plain, simple, and new manner that will prove generally acceptable to all. Upon almost every page will be found sentences of vital importance, and put in such a manner as to cleave so powerfully to the memory as to act upon the daily life of every reader. Each chapter is subdivided into many parts, the whole comprising 200 pages. To the general reader, this must prove the most interesting, the most important part. Almost every thing pertaining to the "House we Live in," is here treated in a modest and simple manner.

Who does not desire good health? When we lose it, how much we are willing to give to regain it. These pages instruct the reader to live as not only to avoid disease, but how to enjoy our God-given faculties capable of producing more happiness than most of us know any thing a bout. . We especially commend this part of the work.

Part IV would also speak for itself, should we give some of its contents. The author does not claim much originality here, but has shown good judgment and a wise discrimination in making a selection that is decidedly readuble, and in adapting most of the selections to the title and character of the book. We select a few headings : Gen:us and Learning, Facts in Human Life, Manners and Generosity, a Text for a Life-time, a Modern Dictionary, Physiognomy among the Greeks, New Articles of Faith, Eicments of Success, a Beautiful Sentiment, Difficulties and Troubles, Selfishness and Concert, Ambition, Riches and Money, Business, Idleness, Fortune, Enemies, Errors, Folies, Faults, Evils, Vice. Affectation, Variety, Learning, Intellectual Improvement, Observation, Conversation, Reading, Memory, Reflection, Thought, Resolution, Self-effort, Work, Opportunity, Love, Marriage, Source of True Happiness, Kindness, Good Nature, Benevolence, Contentment, Pleasure, Greatness, True Philosophy, Wisdom, The Bible, Religion, Sermons and Preaching, Truth, Sin, Repentance, Heaven and Hereafter, Purity, Christianity, Virtue, Conscience, Duty, Prayer, Faith, Hope, Charity, Horror, Sympathy, The Gentle Word, Time, Life, Death, Immortality, What makes a Man, Music, How to Live, Proverbs, At Last.

We have here a handsomely bound, beautifully printed 12mo volume, 444 pp., which may be ordered through us. It will be sent by mail, on receipt of its price (\$2), and twenty-four cents to pay for rostage.

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MRS: R. B. GLEASON, M. D.,
MRS. HORACE MANN,
MRS. L. A. JENKINS, M. D.,
DR. DIO LEWIS,
DR. A. G. HUMPHREY,
DR. A. L. WOOD, and
THE EDITOR.

This Number.—We are sure this number will be a delight to our subscribers, old and new.

Mrs. E. Oakes Smith's Story, which was promised this year, begins in this number. A few persons have written us that they hoped we would not print a story in The Herald, but we think they will change their minds before the end of the year, if they do not by the time they have read the January number. Our readers will see that it is in an entirely different vein from any thing before published. There is no reason why a health journal should not also enliven its pages with really entertsining and instructive stories, than a religious or political paper should. It will be our aim to secure only those of high merit and excellence.

We also commence in this number a series of papers entitled "Studies in Physiology." They will be from the writings of the great masters in this field, and alone will be worth more than the entire subscription price for the year. The article in this number is by Prof. Huxley.

We also call especial attention to a paper entitled, "The Dangers of Blistering." We believe it will prove of great neerst and value to our readers.

Mrs. H. C. Birdsall, a new contributor, gives us this month some valuable hints on The Treatment of Children.

Mrs. Horace Mann has an excellent article on "Industrial Education;" Henry Ward Beecher one on "Generosity and Benevolence," and Mrs. Dr. Glesson one on "Baths for Babies." This paper will remind our readers that we have in press a work by Mrs. Glesson, entitled "Parlor Talks to Ladies," which will be ready in March, at which time we shall want lady agents in all the large cities to canvas for it.

We also call especial attention to Professor Maclaren's paper on The Law of Physical Growth, a paper full of sound truths.

The editorial "Topics of the Month," "Answers to Correspondents," and "How to Treat the Sick," will, we trust, make up a number which will satisfy all who read it. Reader, if you like this number, try and send us a few subscribers for this year.

Henry Ward Beecher's Paper.—
See advertisement of The Christian Union on second page
of cover. We will send this paper and The Ikerald or
Healthe for one year for \$3 50, to one address. The
money and the name must both come at the same time.

Notice to Our Correspondents.—
The following hints to correspondents should be observed in writing to us:

 Always attach name, Post Office, County, and State to your letter.

 SEND MONEY by Check on New York, or by Postoffice Money Order. If this is impossible, inclose Bills and register Letter.

 CANADA AND NEW YORK CITY SUBSCRIBERS should send 12 cents extra, with which to prepay postage on subscriptions to The Herald of Health.

 REMEMBER, if you are entitled to a Premium, to order it when you send the Club, and inform us how it is to be sent.

 REMEMBER THAT WE NOW GIVE the Empire Sewing Machine as a premium. It is guaranteed to give good satisfaction.

6. REMEMBER TO SEND in Clubs early.

 REMEMBER TO LOOK at our Premium List and Book List, and see exactly what we give and have for sale.

REWEMBER that for the names and addresses of 25
persons, either invalids or friends of Temperance and
Health Reform, we give Prof. Wilson's book on the
Turkish Bath. It contains 72 pages.

 STAMPS should be sent to prepay postage on letters that require an answer.

 Those who want a good Spirometer, Parlor Gymnasium, or Fitter for making their water clean, will find the pr.ces in another column.

 INVALIDS from all parts of the country are invited to write to us for our circular, and full particulars as to Treatment or Board in the Hygienic Institution, See advertisement clsewhere.

12. See List of Books elsewhere.

The Picture of Humboldt.—We are now sending out the picture promised to our single subscribers for 1870, who send directly to the publishers \$2. Lest there be a misunderstanding on the part of some, we state distinctly that those who take The Herald at club rates will not be entitled to it. The way to secure the picture is to send your named direct to the publishers.

What a Lecturer Thinks of The Herald. Susan Everest, M. D., an able and popular lecturer on Health in Obio, thus speaks of The Herald of Health: "The Herald of Health is a delight to all my subscribers, and I congratulate you upon your success in making a journal, devoted to the supposed dry topics of Health and Morals, as interesting as a romance."

Schoolday Visitor.—This bright and cheerful monthly for the young begins its fourteenth volume with the January number. The price is \$1 25. See their advertisement on another page. We will send this monthly with THE HERALD OF HEALTH for \$3.

Home Treatment.—Invalids wishing prescriptions for home treatment can have them for Five Dollars. They should send full particulars of their cases. Any person sending five new subscribers to The Herald of Health and Ten Dollars, will, if he does not choose other premiums, be entitled to a prescription for treatment free.

THE HERALD OF HEALTH

AND

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THE TWO WIVES.

BY MRS. ELIZABETH OAKES SMITH.

CHAPTER V.

CORA ILL AT EASE-A SHAKER BABY.

WE left the Professor talking with Cora, when he was suddenly plunged into the land of reminiscent shadows. She half arose from her seat, for she remarked that strange weird expression of face that stole over it at such periods, but the unconsciousness was only momentary, although, as we have seen, his experience was protracted and not devoid of perils. The Professor opened his eyes smilingly to find Cora's close to his own, with a strained, eager expression upon them.

- "You dreamed of Zalinka again, George."
- "Why do you think so, Cora? Did I sleep long?"
- "Why do I think so? Because your face grew so young."

He laughed pleasantly and said, "I shall need dream a long while to make my face as young as yours."

But Cora looked grave, and then took up her embroidery. Sister Electa crossed the room, and put her hand softly upon the shoulder of the young wife.

- "Something troubles thee, Cora. Will thee not tell me what it is?"
- "I do not quite know. Ask George," and she pushed a cushion from under her feet, petulantly.
- "Cora does not like to have me dream; as. though it were a thing dependent upon the. will!" he replied.
- "I think any girl would dislike to have herlover cry out in sleep, 'Zalinka, beautiful Zalinka!' and her own name plain Cora."

Sister Electa's smile was electric, "Did thee really so cry out in sleep, George? And does thee remember thee's dream?"

- "Most assuredly he does."
- "And thee is jealous of a dream-love, Cora!"
- "Yes, I am. If I had my way, my husband should never dream."
 - "Suppose he were a poet?"
- "Thee knows he is not," and Cora gave a bad emphasis to the pronoun.
- "I believe we are all poets at the best," an-

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swered the Professor. "I believe that unshackled mind is capable of infinitely more than it now achieves."

"By 'unshackled' you mean unmarried, I suppose," retorted Cora.

"No, indeed, my love. We are all married some how and some way, in spite of ourselves."

"And you are married in your dream, I suppose, to Zalinka? And you may have her; I will have no part in a—a—what is the word?—there, now—what is it?"

"Thee would use a cruel, bad word, Cora. I am glad thee can not think of it."

The Professor had colored crimson at the speech of Cora, and then he cast his eyes down and grew very pale.

"Bigamist! that's the word," said Cora, with a little shout and most unbecoming laugh.

The Professor raised his eyes to her face in tender rebuke, and then smoothed her soft hair, .so gently.

"Do you remember, sweetheart, that passage of Scripture that says, in some good time to come, that 'young men shall see visions, and old men dream dreams?" We must do the best we can in the world, and receive even ourselves as it has pleased God to make us."

"Oh dear, dear! I can see nothing in all you say; and you all make me feel as if I were good for nothing but to be called pretty, and be kissed, and all that."

"And it is a delight to look at your prettiness, and kiss the hem of your garment, my darling wife."

"There it is again. I suppose if I knew as much as you do, and could talk to make people open their eyes with wonderment, and be pretty too, you would love me as well as—as—you do Zalinka."

"Oh Cora! my precious wife, be yourself, nothing else, and do not, do not, I conjure you, talk in this way about my state of mind, which I can not myself define."

"You told me once I must tell you all my thoughts, and now you tell me I must hold my tongue;" and Cora bent her eyes upon her work.

The Professor. arose, and walked back and forth across the room, with such a perplexed, troubled look that Sister Electa could not forbear saying.

"In our sect it is a belief that they who marry increase trouble, and though I would not, could not marry, it seems to me that two persons having thus a dear, acknowledged companionship might be very happy."

"There now, don't moralize; I am just a cross, jealous ninny. I know it, and George ought not to mind me. You promised, Sister Electa, to tell me all about the Shakers, and why you left them. Tell us, now do! You are so wise, and used to be so beautiful, I am sure."

"Sister Electa is now beautiful. She must have been beautiful as a young girl; she is beautiful in middle life; and she will be beautiful to the end of time," replied the Professor, with a warmth so unwonted to him that poor Cora opened her eyes in amazement, and Sister Electa's soft cheek turned to a rosy hue.

"Yes, I will tell thee about it. Thee remembers, George, good old Sister Sophia, who would not desert me, through all my life. She has gone to her long sleep; she folded her hands, and exhaled as a blossom would. Since I have seen thee and Cora, George, the images of my Shaker life come back to me with a not ungenial significance. I recall the period when I so willfully, so imperiously turned my back upon them, and they so gently yielded to my every humor."

"I have often wondered what could have induced you to leave those quiet retreats, which would seem so well adapted to a mind spiritual and serene like yours, Sister Electa."

A faint blush, a clear opening of the large, speaking eye, gave token of a negation to a part of this remark, but she replied,

"I link all the sections of my mind together and see a continuity in them; and yet, I, like the rest of the world I suppose, have found myself moving in eccentric lines totally unexpected to myself. When I scrutinize closely cause and effect, I see how naturally every apparent contradiction grew out of something which preceded it. It all seems a dream, as I look back."

"Goodness!" exclaimed Cora, "don't talk of dreams. I never want to hear of a dream again; though I used to run for the 'Dream Book' every morning, before I was married, to see what my dream meant."

"You have not ceased to dream, now you are married, I hope, little wife," said the Professor.

"It does not matter now, you know," she said; "but I am dying to hear all about Shakerdom. Tell us about the baby Shakers."

"I have a dim recollection of lying straight upon a hard mattress, with a long blue and white robe drawn tightly about my neck, and tucked under my feet. Then there was a stiff cap, standing like a barricade upon each side of my face, and confining my vision to a narrow patch of the white ceiling above my head, and never moving hand or foot, as if I already comprehended the decorums of the Order. I was a Shaker baby in the full sense—straight, still, sober."

"Poor little baby!" exclaimed Cora; "your mother died, and your father gave you to the Shakers, didn't he?"

The Professor looked shocked at this blunt method of reaching the fact, but the gentle Shaker answered firmly,

"Yes, dear Cora; I must have been greatly wronged, as a child, by my father; peace to his ashes!"

"Tell me more, Sister Electa," said Cora, like a spoilt child. By this time she had beckoned the Professor to seat himself beside her, and leaned her head upon his shoulder. Electa continued.

"I had strange thoughts in those days, but my deepest consciousness was an undefined terror lest I should break loose."

"Splendid!' cried Cora.

"Yes, and I think I have never lost the feeling. I have been a silent woman, mostly, for our sect admits of no redundancy of words. Even as a child, I used to listen to the outpourings of some of our fervid speakers, with a feeling that I must rise and pour out my soul in a sort of rapture."

"Why, I had never imagined such a thing in you," said the Professor, opening his eyes in unfeigned astonishment. "You have the temperament of genius; it is a pity you have not its expression."

"Nay, nay. The poetry of the soul ought to be carried into the action of the life, George. It was never designed for mere book-making, and in the better days will cease to be thus converted.

"How long I remained stretched upon my little mattress, never tumbling my starched robe, or crumpling my cap, it is impossible for me to say. I must have committed the indecorum of a kick."

This was so demurely uttered that her auditors burst into a merry laugh, at which she also smiled, in her serene way, and went on.

"I was unconscious of the offense, and must pass to the next stage in the experience of a Shaker child. I had found my feet, and was walking demurely about in a pair of little highheeled shoes, with broad straps, clatter, clatter, clatter, staidly up stairs, staidly down—the properest behaved child in all Shakerdom. I never ran after the chickens, but walked them out of doors, clatter, clatter, with the utmost gravity. I never pinched the kitten, nor streaked the window-pane with a wet finger, or scratched the white table with a pin, but was from the first perfectly correct, and have ever since been so tame, so stupid, so correct, that I am ashamed of myself."

The Professor rubbed his hands. "Upon my word, Sister Electa, who would have thought it! Dear me! you always seemed so different; I had no idea of it! Dear me!"

"There now, George; what is the matter f" cried Cora, with an undefined feeling of uneasi-

The placid Shaker smiled with a grotesque humor, and went on.

"To a child who has known this unending, silent routine, who has seen nothing but still, pale faces, subdued to a pensive sadness, a walk beyond the limits of the premises is an event. I often stood dreamily in the door-way, watching a huge rock, an antediluvian boulder, seamed by friction and moss-grown with age, which jutted forth a shoulder at an angle of the wood, verging the highway. I saw heavy wains of hay lumber and creak along the road, and disappear behind the great rock; the birds quickened their flight as they neared the great rock, and were lost in the blue beyond; cattle in the nooning sought the shelter of the great rock. It grew to be invested with mystery in my young eyes, and all the world of enchantment lay beyond.

"One day my little heels ventured farther and farther from the familiar precincts, and by slow, toilsome steps neared the great rock. I looked neither to the right or the left till I had reached the summit, for thee must know, that one side of the boulder was buried in the ground, and being covered with grass was of comparatively easy ascent. When I had reached the top, I looked about me. My poor, unaccustomed eyes to such loveliness were ravished at the sight. There was a clear, smooth lake; at its outlet a mill, whose revolving wheel was like a sheet of molten silver, or a cataract of diamonds. I saw people coming and going in bright, beautiful robes. Cora, I thought I must be dreaming; I thought perhaps I had reached one of the thoroughfares to the Gate Beautiful, and that soon Heaven itself would open its portals to me.

"While I stood thus entranced, I became gradually conscious of a group of creatures at the foot of the rock, who shouted aloud, danced, screamed, and kicked up their naked feet in the air, and showed little wild, distorted faces, such as I imagined devils must have. They were the

children of the village school, but to my unaccustomed eyes they were demons.

"I watched these young imps, dumb with horror, expecting every moment they would clutch me. They grew more violent, and began to pelt me with stones; and then what do you think I did?"

"I suppose you jumped down, and tore out their eyes, and pulled their hair, and screeched and screamed. I know that is the way I should have served them." This from Cora.

"What loes thee think I did, George?" asked the Shaker, with a placid smile, her clear eyes locking, wondrously bright, straight into the face of the Professor.

"I can hardly tell, Electa; but I think you said 'Please don't,' or something the like."

"There now, George, she is not quite such a flat as that!" cried Cora, playfully boxing his ears.

"Neither of thee is right," answered Electa. "I stuck out my lips at them!" and she said this with such a girlish blush, that Cora laughed merrily, and the Professor raised his brows, and smiled, saying,

"I did not think of that!"

"How should any body think of any thing so absurd! I stood there alone on the great rock, protruding my under lip at them until it ached with the effort. I jerked out my neck; I drew in my lip, and wet it with my tongue, and stuck it out again at my tormentors, till the pain became intolerable. How they did scream and kick up their heels and pelt me with turf and stones! Thee can not realize what an experience this was to a child such as I was, and one so serenely trained."

At this moment Mrs. Pyncham opened the door and walked in with a sort of ill-used lady air, glancing around and making her greetings as if expecting a rebuke or rebuff, and resigned to her fate, whatever it might be.

"Good morning, my poor child. You are flushed; I hope not feverish." This with a touch of her thin lips upon the cheek of Cora.

"Good morning, Mrs. Electa; I did not know that you would be permitted to visit my poor Cora; old men with young wives are so exacting; but I dare say all is for the best, though we do not see it now."

The Professor rose and presented a chair to the mother of his wife. "Good morning, Mr. Lyford; I am sure you need not trouble yourself to get a chair. I never claim any civilities at your hand. No, thank you, I shall not stay. I just stepped in, Cora, to see how you get alon."

"Oh, George and I made it up long ago, Mother. Don't you worry."

"I know, Cora, your mother's opinion, or your mother's advice is of little value to you now; but the time may come when you will recall it all, and wish then that you had treated it with more respect."

"There now, don't croak, Mother; you have interrupted such a nice story. Sister Electa was telling all about the Shakers."

"I am well aware, Cora, that my visits are unwelcome. I know it, and feel it most painfully, but I shall come, my child; it is my duty to do so, and I shall come."

The Professor reddened slightly; and then he took a Greek book from the table and began to read.

"Let me take thee's bonnet; thee is tired and troubled," and Sister Electa untied the strings with a gentle hand.

"I did come to stay, but seeing myself unwelcome, I was about to change my mind," said the Widow Pyncham.

"You said you would not stop, and I thought you meant it. I am sure, you know, Mother, George and I are always glad to see you."

"I should hope my child is; my child, for whom I have toiled and struggled so much." This with a sigh and a resignation of bonnet and face at the same time, and a dagger glance at the simple-hearted Professor. She resumed,

"But I interrupted you all; it would be botter for me to go. I see and feel that I am in the way."

"Well there! then go, if you can not come with any thing pleasant. I am tired of fault-finding," eried Cora, half crying, and putting her elbow upon the shoulder of her husband.

"It would be better for you to be tired of the doings in your kitchen, where there is enough wasted to keep two families," retorted the widow, adjusting the fingers of her mits, every finger of which had been turned inside out, and required a world of fixing.

CHAPTER VI.

THE PROFESSOR DOUBTS, EXULTS.

RS. PYNCHAM," writes the Professor, "is a very uncomfortable person, and always makes me feel, when under her eye, as if I must have been guilty of some atrocious conduct at some time, which she is bent upon ferreting out. She walks into the house and takes Cora to task in a very absurd way. It is true, in one thing she is quite right: household

matters do not seem to work well, and I have to now and then urge my poor little wife to institute a reform, which does not please her. I could wish also that Cora would not speak so petulantly as she often does, but I am an unreasonable blockhead for expecting so much of a pretty woman. It may be that the age belongs to them, the women, and they feel that it does, and determine to make us pay well for our privileges and comforts. I do not see where it will all end, but surmise that we men are to be a subjugated sex; indeed, we are sinking under the sway of the Amazons, and before many generations the women will hurl back upon us all the boy babies to train and support, while they will keep the girl babies to train up in their own way. Then, to be sure, the boys will be trained to fight them with a good will, and we men will make the women pay for our good fellowship.

"Ah me! I hope I shall never live to witness this transformation of society! I should stand but a poor chance with these fervid, exacting, self-reliant creatures! A pretty figure I should cut, when one of them should happen to cast a covetous eye upon me, and think to appropriate me for the time being! She would need be soft as velvet, and sweet as sugar, or I should, as Shakspeare says, 'crack the gorge,' and reject, and spurn her approaches. Dear! dear me! what are we all coming to? I will no more speculate upon the possible future, but make myself content in the present.

"I find myself exceedingly happy of late, so happy, that my little household troubles and defects do not in the least wear upon me. I believe if Cora should become altogether unlovely, I should still regard her with great tenderness and forbearance, because of this internal content, this fountain of youth and joy, welling up from the deep chambers of my being, and overflowing, as it were, to impart blesse-lness to all within the sphere of its influence.

"I impute much of this to my dream-life, which, I find myself under many petty cares falling back upon, as if to say, 'I have bread ye wot not of.' It seems to me that even in that old imperfect civilization, with its ancient, cumbrous worship, there was more to stimulate the soul than in the hacknied platitudes of our day, with our gaudy luxury and tiresome routine.

"I am not a sensual man, but I feel an indescribable thrill of delight at each recurrence of my dream, linked together as it is; not a mesh lacking, not a word, not a gesture of the beautiful Zalinka lost to my mind. I spring elastic to the task of the day; I hear the clear tones of the young men at their daily recitations, and feel my blood is younger than theirs. I road lessons with an intuitive sense of the beauty of language unknown in the years that are past. Ponce De Leon and the old mystics must have had visions akin to mine, which they dared not divulge to a cruel, bigoted, and superstitious age.

"I confess it, I long for a recurrence of my dreams. I long, as a fervid lover longs for the presence of his mistress, so do I long for a renewal of my life with the soul-inspiring Zalinka.

"'Sleep, O beloved Teomax!' I repeat a hundred times a day.

"Then I become casuistical, and ask myself, Is this the faithfulness promised at the marriage altar? Am I blameless, I, who grow daily enraptured with the Beauty of my dreams? Were the old Saints and Martyrs subjected to like visions, which they rejected as visitations from the Father of Lies, while I yield myself to them, with, it may be, a deadly fascination? They scourged the outer man with torturing whips, and lay down in sackcloth; fasted and prayed, and confessed, and their confessions are as deluding as the visions they relate, while I spring exultant to life and duty, and human love and human sympathy, because of the full goblet I hold to my enraptured lips. Is it the starved soul that sins? do we rush into evil because the life has no aliment for its myriad of attributes? Give us enough to fill up the whole being, to satisfy its aspirations, its illimitable love for all that is beautiful, its fathomless pity for all that is evil, and the 'I am' would be as a living presence; and again and again I heard the soft voice whisper,

"'Sleep, O beloved Teomax!'

"And I seized my pen and wrote the following sonnet, I, who am no poet, and in the times that are past have been guiltless of a single rhyme.

SONNET.

Press down my lids with kisses; let them fall]
As falls the rain upon the quivering vine,
Giving a foretaste of the coming wine.
Mescems mine orbs another sphere recall
Where birds all day to their sweet matelings
call,

And blooms perennial glow in summer shine, And holiest love makes all the year divine: For Life is Love, and Love is all in all.

Thy kisses steal my soul away, dear heart,
And we together thread a crystal street
Begirt with shade of overhanging pine;
And I, withouten sight, save where thou art,

Glide o'er the golden way with swimming feet
And nothing know save that thine arms entwine.

"A poet must be the happiest of God's happy creatures, being subjected to less impediment than other mortals. How tame, how insipid love-making seems, when unspoken by poetry! How like the cackle of poultry and the screaming of daws compared to the soul-full nightingale, and the capricious, untiring mocking-bird! Women and men are far lovelier, better, and higher-created, than they ever seem to realize."

The Professor slipped the unlucky sonnet between the sheets of his next lecture, for Cora entered the room on tiptoe, looking quite charmingly in her fresh morning-wrapper; her bright, abundant hair tied in a loose knot at the back of her head.

"I saw you, I did; you sly old boy! You hid something away, and your cheeks are all flushed up. Let me see what you have been writing; you know I always read your lectures."

"Certainly, my love; you shall see it," and he produced the lines with a half-sheepish look.

"Dear me! Upon my soul! who would have thought it?"

These and similar exclamations escaped the lips of Cora as she read; and then she pressed the edge of the paper thoughtfully against her red lips and looked away, with her eyebrows slightly raised, more thoughtful than petulant.

- "Tell me your thoughts, pretty one," said her husband.
- "George, did you ever write poetry before you began to dream?"
 - "Never till now, darling; if it is poetry."
 - "Did you write that to Zalinka, or to me?"
- "Cora, dearest, do not talk in that way. Am I less loving now than before my dreaming, Cora?"

"It seems to me you are not quite the same, George. Sometimes I shrink from you, as though you were not the same very dear old George."

- "But it is the 'same dear old George,' Cora, who loves you with all his heart."
- "No, George, dear; not with all your heart. There is something more than Cora there."
 - "A revelation"---

Cora laid her hand upon his lips, "Now, don't talk that, you know I don't understand it, and I get muddled, and wish you were only more like other people." "How, Cora?"

"Well, I wish you told stories, and laughed, and loved the cows and the chickens, and whistled, and said your prayers solemn-like, and believed in the minister, and would get cross and scold and make it up again, and feel proud about your new hat, and trousers, and my new bonnet," and Cora burst into a laugh at her own description, with tears wet upon her eyelashes.

"Well, darling, you might have all that in Paul Steers, our mill-boy neighbor."

Cora put a little, tender, wifely, girlish slap upon her husband's cheek, and pouted, and laughed, and said,

"That is a bright young man, George. Did you ever notice how smart he is?"

"I think very much of him, dear; but I must go to my class. Good morning, love!" and, with a kiss, he was soon to be seen going across the green lawn, under the whispering pines, in the direction of the College.

Cora watched his retreating figure with a sigh, and hoped he would turn back and kiss his fingers to her, but he did not—only walked away musingly, with his head upon his hreast, as if in deep thought.

"I have no doubt he is thinking of Zalinka," she murmured.

In the evening, when the Professor took his seat by the shaded lamp, and a Greek book in his hand, Cora pushed the latter aside, saying,

"Don't you want to hear Sister Electa tell how she got down from the great rock?"

"Assuredly, my dear," replied the Professor, who could not but like the ready speech and enthusiasm of this child-woman, who had at the moment entered the room. The placid face, and clear, harmonizing voice of Sister Electa were enough to infuse a cheerful content anywhere, while the very essence of purity sat perched upon her plain white cap, that rather embellished than hid her rich folds of brown hair. It must have been that a troop of those lively imps that keep the flowers from defilement, and the bird's wing from dust, were constantly hovering about Sister Electa, whose freeh dress, always like the perfume of linen bleached upon the green grass, was never known to harbor "a speck of dirt."

The Professor's face brightened as he noted in his quiet way this wholesome completeness in the person of Sister Electa, and he waited till she had adjusted her knitting-work. She, after having pinned a "knitting sheath" to her side, and placed the point of the needle therein, with the thread daintily thrown over the little finger

and round the first, began that series of movements which seem to the uninitiated but an idle click of two points of steel, but would result in the production of a pair of warm blue stockings for the Professor, with white toes, as is generally thought advisable in New England, thus replied.

CHAPTER VII.

A SHAKER CHILD SICK UNTO DEATH.

NEVER knew in what way I was released from the great rock and my young tormentors; nor how long I performed the operation of sticking out my lips at them, for my next period of consciousness found me lying stiff upon my little mattress, and Sister Sophia sitting by me in the twilight, with a pointed elbow thrust into the palm of either hand, and her great cold gray eyes fixed upon my face. Ever and anon she would lift up my head and hold a bowl of pennyroyal tea to my lips, and then put my head back again upon the pillow, as if it had been a ball of yarn. Then she would put her two feet upon the rungs of the straight-backed chair, readjust her elbows in the palms of her hands, and fix her eyes again upon my face."

"Mercy! gracious me!" cried Cora; "I should have gone wild."

"I did not know what was the matter with me," resumed Sister Electa, "but I in turn kept my eyes fixed upon hers, although their still, cold, changeless look made me shudder from head to foot. Sometimes she was Sister Sophia; sometimes she was a gray cat, whose loud purring made me half deaf; sometimes she was a clock, and I wished she would stop that heavy tick, tick, which made my poor little heart beat as if it would burst my bosom. I crawled down under the sheets and held them tight with teeth and hands. Then I heard the water pouring over the mill-wheel, and the birds singing in the branches of the trees.

"Then I thought I was lifted up in the air, and such a crowd of beautiful children came to me! They held out their hands and smiled, and called me a lovely name which I could never recall. Then I opened my eyes, and what do you think I saw?"

"Now you will never guess, George; nor I, either; so do tell us, Sister Electa, so as to keep up the story." This from Cora.

Sister Electa busied herself with her knittingwork, readjusting the sheath at her side, and gave a faint sigh before she went on. "Sister Sophia had taken me in her arms, and was holding me to her poor, wasted bosom, weeping and sobbing as if her heart would break; and there were the Elders, and the pale sisterhood, all seated around in stiff, high-backed chairs, and each and all were striking the right hand, the fingers doubled up, into the palm of the left hand; their eyes fixed upon the ceiling of the room, and singing in a high voice a little song of the Order."

"Oh sing it, Sister Electa; sing the song just as the Shakers do," cried Cora.

"It will only make thee laugh, Cora; but I will do so to please thee," and she sang the following words in a high key, but with a voice so clear, so sympathetic, and bird-like, that Cora, so far from laughing, bent down her head with tears in her eyes.

"Home, home to the angels go;
This is no place for thee;
Home, home, where the rivers flow,
Like amber to the sea.
We will not hold thee here,
Oh take her, Mother dear!

"Home, home to the house above,
Where chambers fitting be,
And arms of heavenly love
Are all outstretched for thee.
Sweet Mother, tender, mild,
Take home this little child."

The soft, clear voice of Sister Electa ceased, and old memories so stirred at her heart that the tears were tremulous in eye and voice. At length she went on.

"It was evident that they thought me dying, and I was so happy, so content, such lovely looks of lovely children gathering about me, that I was willing to go. Child as I was, the picture of the stern Elders with their upturned faces, of the pale sisters with tears streaming down their cheeks, produced a profound impression upon my mind, and in after years I was able to comprehend the volume of irrepressible tenderness, which smouldered under their stern creed, the soul of the human crying mightily for utterance."

"How unlike you are to any thing I ever imagined you to be, Sister Electa," said the Professor, musingly.

"A woman is not easily read any way," said Cora.

"Thee has said a wiser thing than thee is aware of," Sister Electa answered. "A woman reads a man far easier than a man can read a woman." "Now, Sistor Electa, if you moralize, I am off; I do not and can not understand you; but tell me how you come out of it all. You did not die, that is plain to be seen."

"No, it is hard to kill a girl-child. Unless it is really predestined that she should be removed to another state of existence, it is hard to kill a girl; she will live through so very much."

"I believe you!" cried Cora, laughing.
"You see how it is, George; it is hard to break
our hearts. But what next, Sister Electa!"

"Not much more, Cora. Nothing to interest you. I grew to womanhood with these simple, pure-minded people, and then I left them, but always returning at intervals, and they receive me with unfailing love and kindness."

"But you do not tell why you left, Sister Electa," resumed Cora.

"I was not content, dear child. I felt I must have a larger sphere of life and observation. I have sometimes thought that one reason for the discontent of women in the world; their petty bickerings, their unhappy tempers may be found in a like cause. They are too large for the sphere in which they are now compelled to move."

"So much abnegation must dwarf the mind," said the Professor, "as a general rule, but you seem to have escaped in good time."

Sister Electa's serene face lighted up, and she replied, "Silence and solitude are great teachers; the long walks of the sisterhood amid the wild blooms; the grasshoppers chirping and racing before our knees, and the birds never weary with their own sweet music, all serve to wonderfully deepen the inner life; an experience of utter negation may deaden many, but others it only serves to develop to a fierce vitality."

"I suppose you cried, and struggled, had an awful time in your own mind, and an awful time with the Shakers, before you finally got away," said Cora, lifting up her eyebrows, with a look of real commiseration.

"Much of that sort in my own mind, but only goodness and thoughtfulness on theirs. Sister Sophia would never leave me, and she has shared in all my wanderings."

"Say, Sister Electa, don't you feel bad, that you do not know who are your father and your mother?"

She looked up with a clear, bright smile, and answered,

"That is a feeling which the world's people cherish. I fear, in my case, some evil existed, and pray daily that reparation be made, but otherwise, for myself, I, Elec'a, have nb misgiving."

"What if the world should look down upon you?"

"I do not belong to it. If I did, who would dare?"

"Brava!" ejaculated the Professor. "Electa, you penetrate and scatter the mists of conventionalism with a strong hand. I, wedded to forms, and the abject slave to opinion, am learning of you."

Electa blushed slightly, and half raised her thin hand, as if to speak, and then, placing her needle in its sheath, resumed her knitting.

"Oh! do say something more, Sister Electa. Somehow I like to hear you talk, though I do not understand half you say. Did the Elders abuse you?" said Cora.

"Never. They tried sometimes to place me in that position of staid submissiveness expected from the little Sisters, but I was not one of the kind easily repressed. Kindness, the law of love, is the great law of reform in the world. Severity exasperates, maddens."

"You ought to preach, Electa," said the Professor, earnestly.

"A woman preach!" ejaculated Cora, lifting up her pretty brows and hands.

"I forgot she was a woman; and now I think of it, I think her hearers would forget it, also. My mind is clearing itself of much projudice."

"I think the world's women are hardly modest. They want to be called feminine, which is a reproach, and they always reminds one of their sex, which is the reason that men look upon them in no other light," answered Sister Electa.

"Don't go off in such deep water!" ejaculated Cora. "Remember, I am no swimmer!" whereat the Professor touched one of her curls tenderly, and Electa continued.

"I was a persistent, out-spoken child, and questioned them beyond my years; they at first tolerated this, and then they began to regard me as an oracle, and to wait for my weird, childish responses with interest bordering upon awe. Had I lived with a more demonstrative people, or with a less simple, upright people, I might have fallen into some wild fanaticism, but I found a resource in our religious dance, which afforded expression for my enthusiasm. With no timbrel I converted this exercise into a Miriam-like ecstacy, and sang our wild religious hymns, with notes so wild and penetrating that they seemed in the ears of the listeners to reach to our seventh heaven, and swell the fervors of unseen choirs. Our measured dance, even now.

is to my mind, a noble and appropriate expression of devotional feeling."

Electa sighed softly, and the Professor studied her face with a new interest, and for the first time seemed to be aware of its extreme spiritual beauty. He replied,

"I believe inspired women have appeared in the world, Electa, and perhaps you come as near one as the age admits or requires, but women in general must be left to their frivolities."

At which Cora put her jeweled hand over his mouth and bade him be quiet, saying, "I must not have silly women abused, seeing I am one myself, and the silliest of the silly."

"Every body likes to cavil at a superior woman; to abuse her, to controvert her opinions, which after all is a testimony to the suggestiveness and force of them. You may strike the steel and it gives forth a spark, while a blow upon feathers only tires the arm of the inflictor." Thus Electa.

The Professor mused awhile and then said, as if carrying out a thought audibly,

- "Bad as women are, they are a thousand times better, even the worst of them, than the men."
- "Therein thee is mistaken," resumed Electa.
 "Women are much worse than men, because they sin against greater light; because they step down for the sake of sinning; while men but obey their instincts."
- "That is very severe; I do not think women are bad."
- "Because thee does not expect them to be better than men, and thee is content to find them as they are; I look for the time when they will better understand themselves, and their mission."
- "Men can never equal a woman in the blush," said the Professor, slightly coloring as he spoke.

Sister Electa's pure face assumed the tinge of the virgin rose blushing at the heart. It is a melancholy truth that few women blush handsomely; they look blue, or purple, or suffuse at the eyes, and thus the ideal blush is lost. Sister Electa's blush, on the contrary, by some mysterious alchemy converted her face to that of a child. She looked up with a pretty surprise and answered,

- "A blush is the memory of Paradise!"
- "How, Sister Electa? tell me how," cried the Professor.
- "Thee must interpret oracles according as thee is able to find the key," she answered softly, evading the question.

The Professor had taken up a pen, and began

to sketch the outlines of a vast teocalli, with palm trees, and in the midst the head of a serpent. Electa and Cora followed the rapid movements of the pen with admiring eyes, and the former replied.

"Thee thinks it is the touch of the serpent, that causes the blush! Only those who retain something of Eden are able to blush. Some primeval, leading, absolute quality of the human mind has been invaded to produce the blush."

- "Dear, dear me!" cried Cora. "I blush because I am pleased or angry, ashamed or proud, and there is an end of the matter."
- "Thee is far finer than thee knows for," answered Electa, tenderly.
- "The innocent blush because of innocency, and the guilty because of guilt," mused the Professor.
- "Perhaps the blush is the testimony to experience. Those who have become over-wise in this way, lose even the hint of innocency, and cease altogether to blush. They have then lost sight of the angels."

"Talk on, do, Sister Electa," coaxingly cried Cora, but she only pointed in reply to the face of the Professor, which had settled forward upon his paper, a sweet smile upon his lips.

Cora put her arm over his shoulder, and laid her bright curls close about his head, and listened, but in vain, for some word from his lips.

"Dreams are holy, my child," said Electa.

"Let it not distress thee; a wife should enlarge her heart and mind, and be patient when she can not understand."

THE DEMANDS OF WAR .- "When we are told that over three millions of men, in the prime of manhood, are trained in the armies of Europe for war, I say to myself, nineteen out of twenty of all this host are poor men's sons. Think how much hard toil in the field and factory, mine and mountain, what parental tears, and trials, and anxieties it cost to raise up these three millions of young men to the age of eighteen or twenty years! Then I look at them while they are at drill; I see they are all picked men-all chosen for perfect health, strength, and stature. The military surgeon has examined them all, and declared them very good for war. We have no surgeons to examine candidates or recruits for the plow, axe, hammer, or spindle. Bow-legged men, asthmatic men, oneeyed men; rheumatic men are deemed good enough for the great industrial armies of the world: just as if war must have the flowers, and peace the weeds of mankind .- Elihu Burritt.

Mind your Eye.

BY REV. CHARLES H. BRIGHAM.

HIS familiar maxim of the play-ground is not so well remembered in the school and in the house. The most of children, and of men and women, too, learn to mind their eyes only when it is too late, and the mischief is done. No part of the body is more trifled with than the most delicate of its organs. If the eye is not abused by direct and wanton injury, for the sake of fashion, as are the feet encased in tight boots, or the waist compressed to a handbreadth, it is abused indirectly in many ways. It is over-worked, strained, exposed to bad light, turned to improper uses, deprived of its proper rest, and made the victim of late hours, and much "good fellowship." It is abused in travel, abused in study, abused in the work of many trades, abused in the process of the toilet, and by cosmetic arts. In lace-making, in watchmaking, in copying, in microscopic and in telescopic investigations, in visiting picture galleries, in reading diamond editions in railway cars, in reading by the unsteady light of batwing burners, or by the dim light of candles and tapers, in winter sleighrides, and in summer boating, the light of the body is distorted, and made, how often, to become darkness! By a disordered stomach not one, but many motes, fill the field of vision. Red and angry eyes tell in the morning who has tarried long at the wine. Bleared and filmy eyes show how the hours of night have been used in the toil of the needle; and many secret sorrows express themselves in the maladies of this frank and irrepressible organ. An oculist's waiting-room unfolds a tale of manifold follies-of mischiefs which his best skill can only in part undo. For diseases of the eye are the most subtle, persistent, and obstinate of all diseases, that show themselves in outward sign. It is easier to know them than to remove them, easier to hinder them in the beginning than to repel them by lotions or prescriptions.

In this short essay, we propose to say some words about the troubles which come upon the eyes, that may be avoided in observing some reasonable rules which we shall give. No rules can prevent in all cases the disease of blindness. Some will be born blind, and some will inevitably become so, in the passage of their years. Only the fewest preserve, like the Hebrew leader, the eye undimmed when their four-score years are

finished; and the fate of Lear and Milton is common, even where the daughters of the house are kind in their ministration. Blindness in some kindreds is a fatal inheritance, to be predicted in the shape of the eye and its color, and in the temperament of the man. On some eyes the cataract is a natural growth, which will return, though it be removed again and again. There is a blindness which no clay from the sacred hill or water from the Siloa pool, even with the promise of an anointed priest, can fairly heal. But not a little of the blindness which seems to be incurable has come from something beside native constitution and infirmity of the blood; and this, moreover, is the least frequent of the troubles of the eye. There is a good deal certainly of partial blindness. A good many are blind, physically, in one eye, as they are blind, spiritually, without knowing it. Some go through life, seeing their own interest and way well enough, though their vision is all one-sided. In Egypt, under the reign of Mohammed Ali, there were battalions of one-eyed men, excellent on the flanks of the main army. And perhaps the literalists would find Scripture warrant for the practice of the Egyptian mothers in the text, " If thine eye be single, thy whole body shall be full of light." One clear eye, no doubt, is better than two eyes which are at cross purposes. But as Jack Absolute says to his father in Sheridan's play, the popular prej udice runs in favor of two eyes, and they are essential in a profitable use of the stereoscope. The effect of the wink is less when the sight of one eye is gone.

The crossed eyes are a trouble which the surgeon's knife must, and generally can remedy. In a song of the last generation, we used to hear of Miss Julia that "a cast in the eye to her looks added vigor," but the other line of the couplet had more of admitted reason, "a cast in the eye often tends to disfigure." It is difficult to be entirely at ease with a cross-eyed man. If he "strikes where he looks," it is dangerous to be in his company, when he is splitting wood, or threshing grain, or shooting at a mark. Eyes that look both ways are convenient for a schoolteacher or a college-professor, and may aid a preacher to see his audience while he reads his manuscript. A lawyer in the court-room may gain something if he can keep one eye on the

witness and the other on the jury, as it was said of a certain noted Massachusetts advocate. On the whole, nevertheless, the convenience of crossed eyes is balanced by the suspicion which they create. A man with strabismus always makes his friends wish that they were nearsighted, or that he would wear something to hide his misfortune. It is not much better when the strabismus is of eyes which turn away from each other, and roll in opposite directions, as the eyes of the turtle and the hippopotamus. By imitation, too, the children of a family often catch strabismus, and involuntary sinister looks are taken by the daughter from the eyes of the loving father. A wise father will check the first symptoms in his child's features, of a defect which may wholly change their expression. For there are not many woman who are really proud of a "cast in the eye," even if they can captivate by it the man who shall by-and-by become President. Strabismus is bad in the eye of a young girl, but it is hideous in the eye of a matron who has lost her bloom. On the canvas it is the sign of a demon, and never of a saint. Judas is crosseyed in the old pictures.

The color of the eyes can be criticised more easily than it can be changed. Hair can take hues according to the fancy of the wearer or the skill of the hairdresser. A bloom can be put upon the cheek which is not the blush of nature. Pale lips can be made to wear a rosy flush, and the form can become plump in judicious padding. But the iris takes its shade from unassisted nature; the black eye will not change to a heavenly blue, or the hard gray eye to a soft hazel, with all our wishing or willing. Sometimes the color of the iris fades, and the black becomes brown as its light is lost under the ministry of lenses; yet most go through life with that hue in the eye which was caught in its first opening. A chapter in the "Notes on Noses," begins "How to get a Cogitative Nose;" and Dr. Warren, Senior, of Boston, used to boast that his son had improved nature more than once in reconstructing that prominent organ. But no process of surgery or physic can get for the eye a better color than nature gave it. The lids may be blackened, either by the dye of the Turkish harems, or by the "shillalah" of the Irish fairs, but any attempt to make the hue of the eye-ball better will make it worse, and quench all its lustre. Fortunately, no color in the iris has exclusive honor, and the unpopular shades of green and yellow are exceptional. Any eye that is lighted by intelligence, by affection, by sympathy, is beautiful, whatever its natural hue may be. The beauty of the eye is more in its pupil and its form, than in the shade of its ring, as we may see in comparing the pictures of St. Elizabeth of Hungary with those of Catherine de Medicis. An eye is beautiful when it is clear, whole, strong, and healthy.

The French physicians divide those who have defects in the sight of the eye, which they must remedy by artificial means, into the two classes of myopes and presbytes. The myopes are those who see distinctly only what is near the eye, but have no clear perception of what is distant. The presbytes are those who see distant objects well enough, but are blind to a clear view of what is near them. Old age brings on the presbyte state, by the flattening of the lens of the eye, and only the fewest can see near things well after they are fifty years old. The disease of this state, if it be a disease, can not in many cases be hindered by medical art. There are instances of men and women who have never used any aids to sight, yet who profess that they can read, write, or sew as comfortably in their age as in the day of their youth; but cases of this kind are not one in a hundred, hardly one in a thousand. When an elder goes without glasses, the chances are that very little of the work is done which would require them; the reading is by proxy, the writing by a scribe, the sewing by a seamstress. To the very old, sight sometimes comes back, and the glasses are discarded; but the work of this extreme old age is of little value, and the light that comes in through the windows of the soul is very faint and uncertain. The convex lens is as much a necessity in the latter years of life to most who have had good sight in their earlier years as the warmer covering for the limbs. There is danger in attempting by manipulation of the eyes to prevent this natural flattening. It is only hindered by its opposite malady, and this remedy is worse than the first disease.

There always have been suppes, short-sighted men and women. But the class is much larger in our age than in the former centuries. There is no reason to suppose that the Germans of Luther's time were afflicted with this evil. It is very rare to see on any old print or picture, even of the most realistic kind, a young man or young woman with eye-glasses. Perhaps their use in those days was not known, and they were needed as much as now. Yet we can not help the belief that a change has come over the eyes of the German people and in the schools of science, when long sight is, as now, the exception more than the rule. A German student is even better known by his spectacles than by

his beard; but Holbein would not have painted him so. German mechanics have the same weakness, and carpenters, blacksmiths, and ropemakers, saw and hammer and twist by the aid of a changed focus. Even sharpshooters use glasses to see their mark, and could not hit without this help. At a Schutzenfest quite as many are garnished with their supplementary eyes as those who depend upon their natural provision.

And the disease is not confined to the Teutonic land, though it has there the largest range and is most hereditary. Among the long-sighted Yankees, whose keen glances can almost pierce the proverbial millstone, and realize the proposition of Mr. Samuel Weller of seeing through a double-brick wall, there are more than enough whose "wision is limited," and who pass innocently their friends without recognition. Schoolgirls wear the eye-glass, and not mostly for ornament; more need it than actually wear it. In every church there are some who can not see the preacher, except as the lunette reveals him. In how many college classes near-sighted teachers lecture to near-sighted pupils. The habit of the malady is often transmitted, but quite as often near-sighted sons and daughters can not trace their misfortune to the vice of ancestry. In most cases, it is the result of bad customs or study or work or routine in life. One-half, at least, of those who wear glasses for near sight had no natural defect in the eye, but can trace the progress, if not find the beginning of the mischief. Men are naturally far-sighted, unless the conditions of their life make them nearsighted. Bedouin Arabs see as well as the vultures of the desert who "haste to the prev and speed to the spoil." A seaman is not troubled by short sight, but can see for a league in the blackness of night. Near-sightedness is a vice of civilized life, of school life, and of higher cul-

This state of myopia has, indeed, its compensations. It excuses inattention and forgetfulness. One who fails to recognize his friend can conveniently plead the shortness of his sight. One who has forgotten a face can find apology in his inability to see it. We know a stiff High Church priest, whose narrowed field of vision is more narrowed by his close-bowed glasses, who can never see heretics or any apostates from his flock; he has vision only of the faithful. The short-sighted youth, too, consoles himself by the thought that by-and-by he may lay aside his glasses and have free use of his eyes, when the noonday of life has come and he has grown to be a portly and honored citizen. It is a comfort

to think that with increasing years sight will grow better and not follow the general law of dimness and loss. This hope is frequently delusive. Some are as near-sighted in age as in youth, and there are myopes with gray hairs who halt and totter on their way.

But with these compensations the state of myopia is very inconvenient and annoying. is an annoyance at meals, an annoyance in all public places, in the church, the lecture-room or the theatre; an annoyance in the street, an annoyance in journeyings, an annoyance by night as well as by day. A near-sighted man goes down the steps with fear and trembling, as he comes out from the lighted hall into the dark night. To him landmarks are indistinct, and metes and bounds invisible. He mistakes a pool for the solid soil, and walks into a canal as he would cross the highway. He climbs a mountain only to find the landscape a blur before his view. The glasses which he wears are a perpetual nuisance, to be shifted on and off as his field of vision is changed-a plague as they are kept, and a despair when they are lost; and they are always lost just when they are most wanted, on a pedestrian tour, or in a public assembly. The damsel who wears them knows that they hide the light of her eye, yet without them her eye has no light. No contrivance of form, no richness of gold or shell, can make the double-glass sit gracefully on the nose of a fair virgin. The Venus, the Fornarina, St. Agnes, or St. Cecilia, would lose all beauty and saintliness with this ugly addition to their charms. Eye-glasses, for man or woman, are in the season of youth, never better than a necessary evil, troublesome at the first and hateful with increasing years. They enslave the freest soul and will, and make their captive exclaim often with the Christian Apostle, "Wretched that I am, who shall deliver me from the body of this death." Dr. John Brown, in his ingenious essay, will have it that Paul's thorn in the flesh was weakness of the eves. But it is more probable that Paul was nearsighted, and was miserable because he had no glasses to wear. That cause may explain his many tears and groanings. A near-sighted man without glasses can never do a full apostolic work.

There are more diseases of the eye which might be specified; color blindness, by which certain shades are confounded and mistaken, and blue may seem to be green, and red may seem to be brown or black; weakness of the eyes, bringing now sharp pain, and now redun-

dant tears; nervous twitchings in the lids; inflammation of several kinds; but we go out of our province in speaking of these. It is more important to give some practical rules in the use of the eyes, than to tell their varieties of defect. Where there is no native weakness, the eye, with all its delicacy, can as easily be kept in good order as any part of the body. We limit ourselves here to ten suggestions:

- 1. Have plenty of light when the eyes are used, plenty of sunlight in the day, plenty of artificial light in the night! Far more injury is done to the eyes by deficiency, than by excess of light. A dark room is no better for healthy eyes than it is for healthy temper or healthy faith. The economy that confines a family circle to one small kerosene lamp in the centre of the table, not only makes round shoulders and dull brains. but ruins the organ of sight as well. A single candle may be enough for a tired traveler in his hotel, who ought to be asleep with all speed, but is not enough for reading or for work. There are other indulgences that can be spared better than light. A badly lighted church, hall, parlor, or chamber, is a dangerous place for the eyes; and the study needs all the light that it can get. There is more need of light for those who are applying their eyes closely, than for those who merely stand and talk with each other, or dance upon the floor.
- 2. Have a steady light, if possible, and avoid the blaze which flickers and wavers. Half of our gasburners spoil by their unsteadiness the strong glow which they give. Nothing tries the eyes more than the quiver in the air before them which a tremulous flame creates. For all close application, an even, constant, quiet light is the best light, a light that is not swayed by draught in the room, or by the rush of its own current. In a church which we knew, the congregation for years were tormented in all evening services by the rise and fall of the jets of light as they followed the eccentric action of a metre in the basement-an undulation not measured by the rhythm of the sacred song, or by the sentiment of the evangelical doctrine. A moderate amount of steady light is safer than a surplus of flickering light.
- 3. And a third rule is, to take the light from shove rather than from any point below or in front of the eye. Not too far above, indeed. The new fashion of lighting churches from the cornice or the dome is an immense waste of light, with very doubtful benefit; and in a working room the light ought not to be very far from the eye which uses it. Just above the head, on one side or the other, so that it may

- come over the shoulder, and give full illumination to the space between the eye and its work, whether reading or manual work, is the best place for artificial light. There is no custom more pernicious than that of holding a lamp of any kind between the eye and the book, and confusing the reflected light with the direct light.
- 4. A fourth rule is, to avoid, as far as possible, continuous work on that which fatigues the eyes, to read diamond editions very sparingly; not to spend much time on the fine print of newspapers; not to read much in the railway cars of the ordinary pattern; to eschew the finer kinds of needle work; to give frequent interval of rest to the sewing machine; to be moderate in the use of the microscope. Little things are not good for the eyes, notwithstanding the power that they have and the marvels that they hold. It is bad enough that some trades compel this close watch upon minute objects; vexatious, too, that divine Wisdom has made so many wonderful things invisible to the naked eye. But it is a poor exercise of ingenuity, that will multiply these marvels of littleness, that will write the Lord's prayer upon a dime, or print the Declaration of Independence in a photographic dot.
- 5. Then an important advice is, not to use the eyes when they are tired, to stop any kind of work or play when the sense of weariness or pain is felt in the nerve or the lids. All reading with tired eyes is unprofitable, all writing with tired eyes is dangerous. No matter if the fatigue comes on too soon and before the task is done; the eye is of more worth than any task to which you can put it. This is the most frequent way in which the eye is made to "offend," by being over-worked, worked when it ought to be resting; and the result is practically that which the Scripture indicates—the eye is ruined, plucked out and lost. The type-setters and proof-readers of the daily newspapers obey the injunction of the Sermon on the Mount more literally than Jesus intended. It is always time to stop working and stop looking when the eyes are weary, whether they are following the page of Dickens, or looking upon the pictures in a gallery, or making pictures in wool or on can-
- 6. And when the eyes are tired they ought to have plenty of rest, of sufficient sleep in the night, and rest, too, in the day. To keep the eyes shut in the day-time is not the best way, and the custom which some have of listening to sermons and lectures with closed lids is not more a sanitary help to the optic nerve than

an aid to close attention. In the day-time, and when one is awake, the eyes ought to be open. But they may be rested by changing the scene, by giving them pleasant colors to look upon, and the various exercises which shift their focus. The paradox is true, that the eye rests when it is most active and restless, when it wanders from side to side and from far to near. The bright, quick eye finds more rest than the dull, heavy eye, which is too lazy to get away from its routine. There is no rest for the tired eye better than a walk among the garden flowers or a game upon the grass. Plenty of sleep, and a good deal of play, are better medicine for the eyes than any lotions, and if taken soon enough, save from the hateful slavery of the eye-glass.

7. In an essay of a former series we have told For the eye water the virtues of water. is the best of tonics and purgatives, restoring vigor, cleansing away impurities, and preventing corruption. To wash the eyes several times in the day, is a simple, but a very needful advice. It is a misfortune of the Anglo-Saxon race that they have so few tears to shed, that they hold so firmly the lachrymal ducts, and weep only in metaphor. A daily flow of tears might save untimely weakness of another kind in the eye, and obviate opthalmia. There is no blessing in "stony griefs," though Bethel may be raised from them, equal to the physical relief which comes in a flood of tears. Too much weeping may redden the eyes, but an occasional fit will only brighten them. In default of tears we must content ourselves with fresh water, which cleanses without inflaming. Old eyes and young eyes alike need its baptism.

8. Not to rub or handle the eyes is another necessary caution. The eye and hand are friends, co-workers, auxiliaries, but they have separate functions, and when brought too near together may spoil each other's work. "Hands off" should be the rule of care for the more delicate organ. Manipulation weakens the force of the eye, makes it more sensitive to the touch of dust, reddens its surface, and disposes it to inflammation. Very few of the causes of pain in the eye are removed by the rubbing of the fingers upon it, and the evil, whether it be a film or a cinder, is usually made more annoying. The eye can not say unto the hand, "I have no need of thee," but it can tell the hand to keep in its place. The eye carries in its own ducts and gentle muscular motion a better source of relief.

9. And near to this is another rule, not to put foreign substances upon the eye or its coverings, not

to dye the lids, as the Orientals do, or fill their wrinkles with powder, in the vain hope of keeping their youthful expression. Cosmetics are of small value even for the cheek and forehead, but for the eyelids they are worse than useless. The ancient eye-stone has now mostly gone out of use, and it was never a very efficient surgical instrument. If the eyelid has an unhealthy hue, a dark purple ring around it, the remedy should be applied elsewhere and be constitutional rather than local. Pearl powder upon the eye is more dangerous than the dust of the highway—and diamond powder as fatal as the filings of steel.

10. To these one more hint may be added, to keep a good digestion. The stomach "crammed with distressful bread" dims the vision as surely as any direct injury to the eye itself. Those floating specks which make the air swim before the eye are signs of gastric disorder, as much as night-mare or neuralgia. Dyspepsia and opthalmia are sisters, almost twin sisters, and work as harmoniously in their wicked mischief as the weird sisters in Macbeth, or the Furies of classic fable. Maladies of the eyes are comparatively rare where digestion is perfectly regular.

These plain suggestions are offered, not as new or original, but in the hope that they may hinder some of that complaint which reveals the wretchedness of those whose eyes cause them to suffer. From neglect of such simple counsels as these, and too exclusive heed of the spiritual functions of the eye, its power and value are As we said in the beginning, neutralized. heedlessness and not willfulness is here the causo of woe. The neglect of the eye justifies in another and quite literal form, the pithy sense of the Italian proverb, "Cieco è e'occhio se l'animo è distratto."- A heedless mind will bring on a blind eye. There are more dignified questions concerning the use of the eye which we have not here touched, about its "education," its discipline, its relations to the soul, its philosophy and its poetry. Prof. Agassiz showed once to the Massachusetts legislators that they were in the predicament of the ancient Pharisees, "who, having eyes, see not." But eyes which are to have poetic or philosophic or keen or enduring vision, must be sound, strong, and healthy. The prophet who would mount on eagle's wing must be also a "seer" with eagle's eye.

THE man who builds a house that he has not the means to pay for, simply provides a home to run away from.

Activity.

BY REV. HENRY WARD BEECHER.

THE errand of life; the education, unfolding, strengthening, and combination of the mind; the exigencies of business; the duties of citizenship; the cares of the household—all these demand seriousness of purpose, earnestness of life, and steadfastness of activity.

Men do not enter life by accident. They are sent upon a mission. And for every man, whether he knows it or not, there is marked out a course that belongs to him only. No man ever repeated the life of another man. No two minds were ever alike; and no two persons were ever able to do each other's work.

If you compare man with the animated creation beneath him in rank, while you will perceive in the lower orders of animals rude traces of that which exists in men as faculties, yet you will find that between man and the mere animal there is a gulf so wide that it may well be said to be impassible. But in nothing does man differ from the animal more than in the prophesy which there is in his equipment. The ox is made for strength; but what provision is there in the bovine family for society, except the feeblest and faintest relations of companionship? What provision is there in the ox species for the investigation of the knowledge of the globe on which they dwell? Where, in the animal kingdom, can you find the first rudimental element of moral feeling? Some intimations there are of reason in the animal kingdom; bu what is reason that barely rises above an instinct, and is, after all, faint and feeble? What is there that can compare with the varied powers with which men are endowed? Man is the head of the animal kingdom not only by the divine declaration, but by the variety and richness of his faculties, and his capacity of development; so that he is, compared to what he was when he was born, what the oak is compared to the acorn from which it sprang.

Now, what was this equipment given to man for? If we look at a seed, we expect it will work out the end for which it was created. If we look upon man as a wondrous creature of powers and faculties, the first and natural demand which we make is that he shall in some way answer or endeavor to answer the purpose for which he was designed. It would be very strange if a man should build a vast and ponderous engine, capable of pumping thousands of

gallons of water every hour, to pump only thimblefuls; and equally strange would it have been for God to have created man with all his wondrous powers, not only physical, but social and moral and spiritual, to perform the functions of a mere animal.

If you look from man to the sphere in which he acts, and to the duties that meet him from first to last, you will find drawn externally from his circumstances the same inferences which you are inclined to draw from his equipment, or his mental constitution. For the healthy development of body and mind depends upon energetic activity. It may almost be said that action is health, and that right action is education. Development is, in all the higher aspects, voluntary, and not accidental. Although activity is necessary to the development of the body, and the filling out and completion of manhood from infancy in the body, yet more necessary still is development of the mind and the moral nature. It is indispensable to moral health that this should be voluntary. A certain amount of education is derived from our institutions, and from those things which are called "accidents," but which are causes, and come in regular order and sequence; but no man ever comes to the full possession of himself, and to the facile use of himself, who does not by voluntary activity develop all his mind and his whole nature. An undeveloped man is never a wholesome man. A. partial man is a cripple. He is paralyzed in part of his being.

No man can answer the demands of business except by high activity. No man can be a business man except through knowledge. It would seem, sometimes, as though this were not There are men who seem to succeed, and yet are narrow. Well, a needle will carry a golden thread; and yet, a needle is very narrow. But it is sharp; and by continuous thrusting it carries the golden thread that embroiders the plain fabric with raised and beauteous figures. And a man may, in a narrow sphere of business, be narrow, and yet be so knowledgeable and so active as to achieve success. But no fool succeeds in life. No man who is ignorant of the things in which he is engaged can succeed. Business is simply a matter of knowledge. Although there may be hereditary tendencies oward skill in certain directions, yet it is a law

skill, knowledge, experience. Your father can transmit to you his property, but not his experience. Your father can transmit to you his name, and can give you a position to start with in society; but he can not give those thousand wondrous adaptations which have come to him through study and practice. Every man has to build himself up, if he is successful, by activity, early begun, long continued, and infinitely varied. Many seem to think that success in life may be had by abbreviated processes; but the longer I live, the more I feel sure of the great underlying law of moral equivalents, and that men who achieve success and keep it, must give quid pro quo for every single stop of that success. The more I observe, the more I feel certain that the men who seem to achieve success by short courses, not giving an equivalent therefor, of work, or skill, or being, soon lose it. I believe life is organized so that honesty means giving a fair equivalent for every thing you have. But that is not the impression of many. Some people think that genius is equivalent to application, industry, and activity. Others hope from occasional potential efforts to accomplish great results. Still others hope by a peculiar tact and sharpness to extract the golden pile from the mountain. And men never learn, apparently, on this subject. The same round of experience is gone through with again, and again and again; and nowhere else in this world is there such slaughter of hope and happiness, or such a multitude of disasters, as in the business career of men. All of which illustrates the great truth that success is the effect of causes, and that it answers exactly to the causes that are applied to its production. No man can so teach the young but that they will come upon the stage of life with rosy hopes that somehow almighty luck shall stand in the stead of Almighty God to them. Luck is the fool's idol, which he stupidly worships. All these seemings of attaining given objects without laboring for them in appropriate ways, are only seemings; and you will perceive that they are such if you follow them long enough to see their rise, progress, decadence and disaster. And let me say to every young person: If you are living simply for business life, you are bound to be earnest and active.

No man is qualified to fulfill the duties of the household but by assiduous preparation, that implies feeling, purpose, activity, earnestness. There are two conceptions of the household—one exceedingly low and material, and the other rational and Christian. If marriage means passion and economic convenience; if the house

of our being that we shall learn for ourselves means the table and the couch; if home is merely a refuge from animal weariness, and a resource for replenishing animal necessities, then it will not take much to fit you for the household. A man is fitted to be an animal with very little trouble. He is that before he is a man. All that is necessary to keep him an animal is to prevent his growth. Prune him back severely, dwarf him, graft him on to some quince-stalk, and he will be qualified to perform all the duties of an animal. Many persons have scarcely a higher conception of the household than that it is a stable where they can stand at the rack and there find their food, and that it is a place of seclusion where they are to have animal quiet and rest. But such is not the Christian and rational conception of the household, which is, that it is the very gate of Heaven; that it is the sphere where souls, drawn together by a true love, learn the homage of love, and learn the lesson of submission, in love, one to another. For, in the kingdom of love, he that yields governs.

Not only is the household set up in this royalty of love, but it is the duty of the household to multiply all the glorious traits and virtues that make life rich, not in the animal, but in the mental and moral spheres. And next to Heaven itself, there is nothing that has capacities and capabilities of such purity and nobleness as the household. In the household, more than anywhere else, we learn humility. There, more than anywhore else, we learn meekness. There, more than anywhere else, we learn selfdenial. There all burdens and yokes that love lays on us are easy to be borne. There we learn what are the feelings of love that unite men. There we learn the mystery of bearing one another's burdens, and of suffering one for another. And no man can enter the household, fitted for the household, who has an indolent, aimless, inactive spirit. Being fitted for the household, means being educated for the duties of active life.

No man can fulfill his obligations as a citizen without the most serious, arduous, and laborious activity. In many lands, citizenship means simple obedience to the majesty; but in this land, while we obey the majesty, we create him. Where all authority is concentrated in the monarchical head, citizens are not permitted to think nor to meddle with public affairs; but in our land it is the duty of citizenship to think of law and policy, and exert an influence upon matters belonging to the State. And no man can fulfill this duty, and at the same time be less than active.

For the most part, men are disposed to seek their private welfare and set aside their public duties; but no man has a right to neglect the community in which he dwells, any more than he has a right to neglect the family in which he dwells. I know of no truth that sometimes

needs to be expounded more than that of the duty which rests upon every citizen to take a disinterested and active part in the welfare of the city, State, or land. And no man can fit himself for the common duties of citizenship except by faithful and energetic activity.

The Landlord of the Blue Hen.

BY PHOEBE CARY.

NCE, a long time ago, so good stories begin,
There stood by the roadside an old-fashioned inn;
An inn, which its landlord had named "The Blue Hen,"
While he, by his neighbors, was called "Uncle Ben;"

At least, they quite often addressed him that way,
When ready to drink, but not ready to pay;
Though, when he insisted on having the cash,
They went off muttering "rummy," and "old brandy smash."

He sold barrels of liquor, but still the old "Hen"
Seemed never to flourish, and neither did "Ben;"
For he drank up his profits, as every one knew,
Even those who were drinking their profits up, too.

So, with all they could drink, and with all they could pay,
The landlord grew poorer and poorer each day;
Men said, as he took down the gin from the shelf,
"The steadlest customer there was himself."

There was hardly a man living in the same street, But had too much to drink, and too little to eat; The women about the old "Hen" got the blues; The girls had no bonnets, the boys had no shoes.

When a poor fellow died, he was borne on his bier, By his comrades, whose hands shook with brandy and fear; For, of course, they were terribly frightened, and yet, They went back to "The Blue Hen" to drink, and forget!

There was one jovial farmer, who could n't get by
The door of "The Blue Hen" without feeling dry;
One day he discovered his purse growing light,
"There must be a leak somewhere," he said. He was right!

Then there was the blacksmith (the best ever known, Folks said, if he'd only let liquor alone);
Let his forge cool so often, at last he forgot
To heat up his iron, and strike when 't was hot.

Once a miller, going home from "The Blue Hen," 't was said, While his wife sat and wept by her sick baby's bed, Had made a false step, and alept all night alone In the bed of the river, instead of his own.

Even poor "Ben" himself could not drink of the cup Of fire for ever without burning up; He grew sick, fell to raving, declared that he knew No doctors could help him; and they said so too.

He told those about him, the ghosts of the men, Who used in their life-times to haunt the "Blue Hen," Had come back, each one bringing his children and wife, And trying to frighten him out of his life.

Now he thought he was burning, the very next breath He shivered and cried, he was freezing to death; That the peddler lay by him, who, long years ago, Was put out of "The Blue Hen," and died in the snow.

He said that the blacksmith, who turned to a sot,
Laid him out on the anvil and beat him, red hot;
That the builder, who swallowed his brandy, fourth proof,
Was pitching him downward, head first, from the roof.

At last he grew frantic; he clutched at the sheet,
And cried that the miller had hold of his feet;
Then leaped from his bed, with a terrible scream,
That the dead man was dragging him under the stream.

Then he ran, and so swift that no mortal could save; He went over the bank, and went under the wave; And his poor lifeless body next morning was found In the very same spot where the miller was drowned.

"'Twasn't liquor that killed him," some said, "that was plain, He was crazy, and sober folks might be insane!"
"'Twas delirium tremens," the coroner said,
But whatever it was, he was certainly dead!

Present Duty of Temperance Men.

BY REV. J. C. HOLBROOK, D. D.

HAVE been requested to respond to the question, "What is the present duty of the friends of Temperance?" I answer:

I. To have unwavering faith in the final success of our cause. No man ever achieved any thing great and noble in this world without faith. It is one of the profound truths of revelation that faith is the mainspring of activity in religion, and indispensable to success in doing the will of God. "Without faith it is impossible to please God." And the whole history of human enterprise shows that faith inspires effort and perseverance in every great work. The case of Lesseps, in achieving the Suez Canal in spite of ridicule, opposition, and almost insurmountable obstacles, is a recent illustration in point. He believed it was practicable and he persevered. Doubt of final success in any great and arduous undertaking is inconsistent with the persevering putting forth of all one's powers for its accomplishment.

Now, I am much mistaken, if the prevalence of such doubt as to the practicability of the Temperance Reform-I mean its general and complete success—has not so far invaded the ranks of its professed friends, as to cause, with many, a relaxation of effort, and in some cases an entire suspension of it. They have become so far discouraged and disheartened that their activity is to some extent paralyzed. It has cut the sinews of their strength. There was a time when the work of reform rolled on with such majesty and power that the day of triumph seemed just at hand. But for some time past there has been a rallying of the forces in opposition, and a combining of strength and pecuniary resources and political influence, that has checked, in some degree, the confidence of the friends of Temperance in their ability to achieve their end, and has "given them pause." Many are dismayed at the aspect of the giant power arrayed in support of the rum traffic and the use of intoxicating drinks.

Now, it seems to me that what we need most of all, at this moment, is more faith in the entire practicability of the great enterprise in which we are engaged. We must go back to first principles, and plant ourselves on the truth that this Reform is the cause of God, and is identified with the progress of his cause in the world, and therefore,

"Since God is God, and right is right,
The right the day must win;
To doubt would be disloyalty,
To falter would be sin."

I know it seems "to man's unaided eye" an endless and a hopeless task to stem the tide of evil that is sweeping over society, and to turn back the current of intemperance. But the prospect is not more discouraging than was that of the abolition of slavery a few years ago, when it wielded such potent influences in both Church and State. It is, in the view of multitudes of merely worldly men, a Quixotic enterprise to attempt to evangelize the world, but no Bible Christian doubts that it will be done, "not by might nor by power" lodged in human hands, but by the cooperation with men of the Spirit of God. It will not be done because man is strong, but because God is mighty. Fifty years ago the world laughed at the scheme of christianizing the debased Sandwich Islanders, but now they are the most Christian nation on the globe. The Temperance Reform is not the work of a day or a score of years, but persevering, Christian, and philanthropic zeal will carry it through, backed by the power of God. "If God be for us, who can be against us?"

Man's appetite for intoxicating drinks is strong, and the cupidity of rumsellers is unbounded, but there is a power in truth, clothed with a divine efficiency, that can conquer even these. Nil desperandum must be our motto, and with God's help we shall succeed.

"Never give up! there are chances and changes Helping the hopeful a hundred to one; And through the chaos High Wisdom

Ever success--if you'll only hope on."

arranges

II. With this unwavering faith, then, our second duty is to resolve that under no circumstances will we relax, in the least degree, our zeal in the Temperance cause.

And to stimulate us we must ever keep before

our minds the importance of the work in which we are engaged. We are in danger of forgetting this, and of losing the impressions once made upon us in reference to it. We must remember how indispensable this reform is, not only to the interests of religion, but also to the other great interests of society, and we must seek to keep freshly before our minds the fearful evils that are connected with intemperance.

To this end we must keep abreast with the times, and be familiar with the Temperance literature of the day. Amid the pressure upon our attention from all the thousand movements and enterprises of the age, and the teeming issues of the press in the way of books and periodicals, we must give room to what is written in reference to the facts and principles connected with the Temperance work. We must read, and write, and speak for Temperance, and thus keep alive in our minds the importance of our cause. And with such a sense of its claims we shall not be disposed to slacken our zeal. We must regard ourselves as enlisted for the war, and never to retire from the struggle till victory comes or life ends.

III. It is our duty to employ, to the utmost possible extent, all available means of creating and maintaining a correct public sentiment in regard to the use of intoxicating liquors.

And in reference to this point, I am persuaded the friends of Temperance need some quickening. There is too much tendency to rely on mere machinery and organization, and a disposition to rest content with a very circumscribed sphere of influence. The importance is not felt as it should be, of the diffusion of information in regard to the facts and principles that form the basis of our reform. Societies and "orders" are well, but if through them or in addition to them there are not measures employed to reach the masses, our cause can never triumph, and the tide of intemperance will never be stayed.

The people must be enlightened, if we would guard against the spread of drinking-habits and secure a right legislation, and make it permanent and effective. Tracts, books, and Temperance periodicals must flood the land; ministers must often preach on the subject; children must be rightly instructed, and above all, the old effective plan of public lectures must be revived. Able men must be encouraged to enter the field, and must be sustained by liberal pecuniary remuneration for their labors. A first-class lecturer, like Gough or Dr. Jewett, will always have audiences and produce effect.

I have no hope of the progress and success of

our cause except as efficient and persistent measures are taken to enlighten the masses. The work can not be safely intermitted. Men need to have facts and principles reiterated, and as the young are advancing continually to maturity, they need to be instructed. I believe in societies, I believe in efforts to secure correct legislation, but I believe still more in the diffusion of knowledge, and I have no faith whatever in any plans or measures, moral or political, that are not associated with this.

IV. It is our duty to insist on the total prohibition of the traffic in intoxicating drinks.

Nothing else will be effective to arrest intemperance. It can not be secured at once, perhaps not for a long time to come, but it must be our ultimate aim. A few drunkards may be reformed and many may be saved from becoming such, by the labors in other directions of Temperance men, but so long as temptation is presented and facilities are afforded for drinkinghabits by the sale of liquors, so long there will be intemperance. We must, then, take ground for prohibition, and utterly refuse to sanction the sale of liquors by governmental licenses, and we must educate public sentiment up to this point, no matter how long it takes to do it. The public mind can be enlightened to such a degree that probibitory laws will be demanded, and sustained, and enforced.

V. Temperance men must este rightly. For one, I do not believe in the expediency of the formation of a strictly and exclusively Temperance political party. But I do hold that every friend of our cause is under solemn obligations to refuse to support any man for a legislator or an executor of the laws who is opposed to that cause, and to vote for those who are friendly to it. If all the Temperance men in existing parties would take that ground, we should have none but Temperance candidates, and our end would be gained much sooner and more surely than through a third party, while other great interests would not be endangered.

And this leads me to say that it is of the utmost importance that this Temperance Cause does not pass out of Christian hands and degenerate into a mere political and godless work. And there would be great danger of it were a political Temperance party to be formed. Our only hope of success is in God. No merely human devices and measures can avail. It is a grand moral reform, and the friends of God and religion and morality—those who are actuated by the highest principles and who know how to pray, while not excluding the

cooperation of all philanthropists, are those on whom reliance is chiefly to be placed. They began the work and they must carry it on to its completion. Hence, I remark,

Lastly, that it is the duty of the friends of Temperance to pray without ceasing.

Without this all other efforts will be vain. I have great faith in works in a good cause, but not in works alone. United with prayer that is prayer, they never fail. Prayer is the mightiest power intrusted to man. It is greater than

intellect or eloquence or physical strength, and more invincible than armies. Queen Mary said she feared the prayers of John Knox more than an army of 20,000 men. Prayer "moves the hand that moves the world."

It secures for us that wisdom that is indispensable to the success of our plans, fits us rightly to engage in labors of love, and above all, it secures for us the cooperation of God. Prayer alone will not suffice, neither will work alone, but both combined, under the stimulus of faith, are sure to triumph.

Growth and Development.—II.

BY ARCHIBALD MACLAREN, OF THE OXFORD GYMNASIUM.

THE BOOKWORM.

CHOOLS, large and small, are yet to be of found where the exclusive bookworm is an object of admiration and wonderment, and master and asber unite in holding him up as an example, and point him out with pride to every visitor. But every sensible man feels for him but commiseration, and regards him but as a warning; for he looks from the boy to the man, and from the school-room to the outer world, with its rude encounter and its stern and prolonged struggle, and he sees how unfit are such a frame and such habits for the task-a warning too which urges less considerate minds to an opposite extreme! "My boy shall cultivate his body," says an astonished but not admiring father; and the resolve is a wise one, for well worth cultivating are the varied powers of the human body; and beautiful it is, and wonderful as beautiful, to watch the fair and free development of the frame of a shapely child; but the emphasis on the terminating word was meant to indicate that an exclusive culture should be given to the body, and that its twin sister, its coordinate companion, the mind, would be left to shift for herself, disowned, excluded from her rightful share in the educational inheritance.

Now this must be error, error arising from ignorance of our very selves. Mind and body should be viewed as the two well-fitting halves of a perfect whole, designed in true accord mutually to sustain and support each other, and each worthy of our unwearied care and unstinted attention, to be given with a fuller faith and

more reverent trust than they have who would argue that He who united in us our twofold nature made them incompatible, inharmonious, opposed. No, no; even blind and blundering man does not yoke two oxen together to pull against each other. Mind and body can pull well together in the same team if the burden be fairly adjusted.

BRUTE FORCE.

"Brute force," "brute strength," are terms we constantly hear used, despisingly, of bodily power when it is designed to contrast it with mental ability; just as we hear the holder of an opposite opinion, and possessor of opposite acquirements, talk sneeringly of the "mere scholar." But they who speak thus err equally in their praise and in their blame. They seek to sever what were bound together in the very planning, if one may so speak on such a subject, of a living man; they disunite them, and then complain that the dissevered halves are of unequal value; they take the one and cultivate it exclusively, and neglect the other exclusively. and then make comparisons between them; forgetting that their fitness, each for the other, lay in the fair nurture of both, and in their mutual cultivation. Thus we hear of men who think out great thoughts, and work out great conceptions, and who yet in their material frames have not the stamina of a healthy child; just as we see the opposite—men with frames so strong and so hardy and enduring, that incessant toil can scarcely fatigue, and rest alone seems to tire

them, yet of mental calibre so small that the intellect seems scarcely adequate to provide for the safety of the mortal machine confided to its care. But either condition is equally the result of error, and either development is equally a monstrosity, although the former is loss repellent than the latter, and less humiliating to our intellectual aspirations.

THE SCHOOL-BOY.

But to return to the school-boy. It is not alone in a negative form, by exemption from extreme mental efforts, that the growth and development of his body is to be secured. Active bodily exercise, at regular and frequent intervals, must be obtained, and for this special provision must be made with as serious a purpose as for any school duty.

All Exercise may be classed under two distinct heads, Recreative and Educational. The first of these embraces all our school-games, sports, and pastimes; a long and valuable list, such as no other country can produce, and upon which every Englishman looks with pride and affection, for they mold the characters as well as the frames of our youths. But valuable as these exercises are-invaluable as they are-it will be at once seen that not one of them has for object the development of the body, or even the giving to it, or to any part of it, health or strength; although all of them, in a greater or less degree, undoubtedly have this effect, it is indirectly and incidentally only-the skill, the art, is the first consideration. And in this, as purely recreative exercise, lies their chief value, the forgetfulness of self, the game being all-in-

Out of this great good there arises, I will not say an evil, but a want, a defect. The parts of the body which have to execute the movements of such exercises are those which can do them best, not those which need employment most. Use gives facility of execution, and facility of execution causes frequency of practice; because we all like to do that which we can do well; and thus inevitably, because based on the organic law of development being in relation to activity or employment, certain parts of the body will be cultivated and become developed to the exclusion of the others. So certain is this the case, that it is as easy to tell from the general development of any youth what recreative exercise he has practiced when at school, as it is to tell from the conformation of the chest whether a man pulls on the bow or the stroke side of his College boat, when he comes to the University. It will be found that the lowe

limbs and right arm have the lion's share of the employment or exercise in almost every one of our recreative exercises. They largely employ the lower half of the body, and where the upper limbs are employed, or the trunk, it is almost exclusively the right side. These distinctive features in our national recreative exercises have the inevitable tendency to develop the lower half of the body to the neglect of the upper; and this is most distinctly apparent to every eye; the lower limbs are usually large and not infrequently massive, while the upper region is usually small and not infrequently irregularly and imperfectly developed, narrow, flat, and, as it were, compressible; it is, in very many cases, years behind the lower limbs in all that constitutes growth and development. Indeed, I almost daily find in my professional life men in whom this inharmonious development is so great, that the upper limbs and upper region of the trunk, and the lower region and lower limbs, scarcely seem to be the halves of the same individual. And while at any time, among the hundreds of men and boys whom I have daily under my care, I might find it difficult to point to one in whom this lower half was really faultily grown, I could with painful facility point to dozens in whom the upper was distorted from its proper conformation.

Recreative exercises then, from their very nature, are inadequate to produce the uniform and harmonious development of the entire frame, because the employment which they give is essentially partial. Where the activity is, there will be the development; and if this principle be overlooked, a portion of the body only will be cultivated, and the neglected portion will fall far behind the others in strength, in activity, in dexterity, and in endurance, for the simple reason that it will be less abundantly nourished.

Recreative exercise in sufficient amount is usually in itself sufficient to maintain health and strength after growth and development are completed, but it does not meet the many wants of the rapidly-changing and plastic frames of youths spending a large portion of their time in the constrained positions of study; taking shape almost day by day from day-to-day occupations. Hence the necessity for a system of Educational Exercises. It is the office, as it is entirely within the reach, of systematized exercise to modify the growth and distribute the resources of the body so that each particular part shall have its legitimate share, and so to increase these resources that each part of the growing frame shall have its wants supplied.

SYSTEMATIC EXERCISE.

The one great reason why systematized exercise is not always appreciated or recognized is, that its special nature and object, its susceptibility of gradation to meet the requirements of individuals, and its effect upon the different structures of the human frame, are imperfectly understood. Its effects upon any part but the muscular system are seldom taken into consideration; its vast influence over the other systems, and especially on the organs employed in the vital processes of respiration, circulation, and nutrition, seldom appreciated. The evils arising from this imperfect comprehension of an agent so important to the healthy growth and development of the young are manifold and increasing-increasing in the ratio of man's intellectual advancement; because so long as it is believed that systematized exercise gives but muscular power, gives that and that only, few of those engaged in purely intellectual pursuits would care to cultivate it, even could they do so without effort, and fewer still would give to it that effort which its attainment demands. And that for this simple reason, that great muscular power would be to a man so situated comparatively without value.

But if it can be proved that this muscular power is but one result of systematized exercise, and that not its highest—if it can be shown that properly-regulated exercise can be brought to bear directly upon the other systems of the body, and especially upon the delicate and important structures which encase and contain the vital organs, and on whose fair and full development the health and functional ability of these organs must greatly depend through life, then such exercise takes another rank, becomes as valuable to the man who works with his brain as to him who works with his hands, and will be sought for with a desire proportionate to his intelligence, because it will enable him to prolong and sustain his labors with safety to himself and increased value to his fellow-men. But this culture should be obtained in youth, during the period of the body's growth, when every organ and every limb and every tissue and every bone are advancing to occupy their ultimate place and position-while all is plastic and moving, changing and capable of being changed.

Get the strong limbs and shapely frame, and a little, a very little, will keep them so; get the strong heart and ample lungs set in the fair-proportioned and elastic chest, and a little, a very little, will keep them so—not more than the busiest life can spare, not more than the gravest mind would seek for mental recreation

and beguilement—a daily walk or ride, an occasional break into the country with gun or fishing-rod or alpenstock. But if these are no more than sufficient for the healthy and the strong, what hope, what chance remains for those who have been allowed to grow up feeble and imperfectly developed? How can they expect to encounter the wear and tear, the "jar and fret" inevitable in the path of every working man.

MAL-GROWTH.

There are many forms of mal-growth, more or less grave, to be seen in every school, all demanding rectification, all susceptible of being rectified during this period of life by systematized exercise. I would instance particularly pigeon-breast, or undue prominence of the breastbone, accompanied usually by flatness of the ribs of the upper region of the chest. I have been able to trace this mal-formation of chest to several causes, such as tight clothing during infancy and childhood, and in many instances to the straining coughs which attend what are familiarly called children's complaints, i. e., whooping cough, measles, dentition, etc. Hollow-breast, which is the obverse conformation of pigeon-breast in front, accompanied usually by the same flattening of the ribs. This is usually produced by causes similar to the preceding. Drooping shoulders, sufficiently expressed in its name, and produced by shoulder-straps, or any arrangement of bands or bandages which confined the action of the shoulder-joint in childhood. Stooping, which at the same time implies such a manner of carrying the head and neck and upper portion of the trunk, as that they are not in a line with the rest of the column of the body-the chief evil consequence attending the position being the depression of the upper part of the thorax in front. With these may be named some of the forms of spinal curvature, often proximately due to weakness of the dorsal muscles or to inordinate and unregulated growth. Rapid growth itself, if unattended by relative development, is not only in itself an evil, but is the source of many others. It is no uncommon thing to find a lad at school growing at the rate of six or eight inches in the year. Now it may be stated that the smaller of these numbers is incompatible with fair development and health; the whole resources of the body are drawn in one direction, furthering one process, the upward growth. Nay, when this process is extreme it will be seen to be most intensified up the center of the body, an idea that might seem fanciful were it not almost daily presented to. me as a fact.

The Prisons of Paris.

BY B. P. EVANS.

THE philanthropy of the nineteenth century has nowhere shown itself more truly discerning and far-sighted in its beneficence than in the reforms which it has introduced in the treatment of culprits and in the whole system of modern penitentiary discipline. Weak sentimentalists of all sorts have doubtless tended to bring these humane efforts into contempt by manifesting a morbid and maudlin tenderness toward criminals, which in many cases is hardly distinguishable from sympathy with the crime itself, by losing sight of the rights of lawabiding citizens to protection in life and property, while fixing their "fine eyes" too intently on the wretchedness of the poor fellow whom native temperament or unavoidable circumstance have made the victim of violated law. But in spite of the disgust excited by the false humanity and silly enthusiasm which would transform a prison into a palace and hide the cold, cheerless stones under Brussels carpets and behind hanging tapestries, not only have the improvements in such establishments since the time of Howard been in every respect salutary to society, but the efforts of earnest and clearminded men in favor of still further ameliorations prove also that much remains to be done before the sensitive spirit of justice and compassion shall rest satisfied. It is, however, a great error, and utterly destructive of the idea of punishment, to increase the comforts and luxuries of jail life to such an extent as to deprive it of all its asperities, and thus actually put a premium upon crime. It is a mere mockery of penalty to provide convicts with spacious apartments and delicate viands, such as they could never have provided themselves with by honest industry on the other side of the wall. In order to show what has been accomplished by enlightened philanthropy in the treatment of criminal classes, we propose to give a brief account of the old prisons of Paris, based upon the most recent and most authentic French authorities.*

The objects, which builders of prisons two

centuries ago sought to attain in constructing them, are well symbolized by the word "Liberty" inscribed on the façade of the prisons of Genoa. This word was written over those gloomy portals not in irony, but as an expression of the fact that the incarceration of malefactors insures the liberty of honest men. The prisons of to-day, says Du Camp, bear no more resemblance to the prisons of former centuries than the justice of past ages has to the justice of the present time. Individual freedom, guaranteed by a series of intelligent laws, is no longer at the mercy of tyrannic caprice, even under the most arbitrary of despotisms. Lettres de cachet disappeared with the French Revolu-The manner in which individual liberty was trifled with under the old French monarchy would be incredible, were it not authenticated by unimpeachable testimony drawn even from the archives of the State. Official documents, cited by M. Clement, prove that more than onefifth of the convicts who were liberated from the galleys in 1674, "had served from fifteen to twenty years beyond the term of their sentence." Even the enlightened and humane Henry IV gave secret instructions that convicts should be detained six years, "notwithstanding they had been condemned to imprisonment for a less period of time." Once in the clutches of the law, a man, whether guilty or not, was regarded as a chattel and treated worse than a beast. He was thrown into a dungeon with a promiscuous herd of profligates, cut-throats, idiots, madmen, and the usual concomitants of vermin and filth. Most of those who were thrust into this den fainted as soon as they inhaled its noisome air; some died and were left to decompose there, thus adding the horrors of the charnel-house and the pestilence to the terror of subterrancen imprisonment. A manuscript report of a magistrate of the last century, quoted by M. Desmaze, gives the following description of the notorious prison, For l'Evêque: "The court is only thirty feet by eighteen, and in this narrow area were crowded from four to five hundred prisoners. The cells, situated under the steps of the staircase, are six feet square, and are designed to contain five prisoners each. The dungeons are on a level with the river-bed, only the thickness of the walls saves them from inundation, and the water constantly filters through

^{*}The above-mentioned authorities are chiefly "Les Prisons de Paris," par Jules Simon; "La Police sous Louis XIV," par Pierre Clement; "Les Prisons de Paris," par Maxime du Camp; "Histoire du Chatleit de Paris," par Ch. Desmase, and "Masas," par Ch. Berriet Saint Prix, an essay on individual imprisonment.

between the stones. In these places are receptacles about five feet broad and six feet long, and just high enough for a man to creep into; in each of these burrows five persons are inclosed. Even in summer the air enters only through a small opening of three inches above the entrance. These dungeons, having no egress except upon the narrow galleries which surround them, receive no more air than the subterranean receptacles. There is not a breathing hole to be seen anywhere." The report adds that the prisons of Le Châtelet are still more horrible and unhealthy. It was in the latter prisons that the Protestant poet, Clement Marot, was confined "for the sake of religion" (as we are told), in the year 1515; after his liberation he composed a poem called "Hell" (L'Enfer), which was inspired by the recollection of what he had seen and suffered there.

Previous to the Revolution of 1789, there existed in France three kinds of prisons: royal prisons, seigniorial prisons, and episcopal prisons, all governed by old ordinances dating back to the reigns of Charles IV and Francis I. Imprisonment was never regarded in those days as a penalty, but simply as a means of securing the person of the culprit. It was not puritive but preventive. "Why do you put me in Bastille?" said Bassompierre to Louis XIII. "In order that you may not be in danger of doing evil," replied the King. Truly, the model of a most Christian monarch, full of fatherly solicitude for the moral welfare of his subjects! It was the Legislative Assembly of 1791 that first considered the loss of individual liberty in the light of a punishment, the duration of which was to be in proportion to the gravity of the offense, and divided the prisons into four classes which were supposed to correspond to the needs and requirements of justice: 1. Jails or lock-ups (maisons d'arset); 2. Criminal penitentiaries, including galleys, places of solitary confinement, etc.; 3. Correctional penitentiaries; 4. Reform schools intended, or houses of correction designed, for offenders under sixteen years of age, or for minors arrested and confined at the request of their parents. This gradation of penalties and classification of prisons, according to the nature of the crime or the character of the criminal, was a great improvement on the old system. It prevented striplings, who were guilty only of petty larceny or some equally slight violation of law, from being thrown into the society of accomplished and incorrigible villains, and thus educated at the public expense into the most bardened and incurable types of vice and profligacy. Yet, notwithstanding these just distinctions which were made in the category of offenses little or nothing was done to better the condition of the prisons. Even the French Revolution, with all its enthusiasm for liberty, equality, and fraternity, brought no amelioration or relief to this class of community. It broke open and raised the Bastille, not from abhorrence of the old penal system of France, but because the Bastille was a political institution, and, together with the clergy, the nobility, and the Parliament, formed one of the four pillars of the monarchy. Under the Republic "one and indivisible," the prisons were mere sinks and cesspools. In vain the attention of the council of five hundred was called to this subject, nothing was done to ameliorate this deplorable state of things. During the Consulate and the Empire the government was too busy in regulating the affairs of Europe to remedy the moral and physical corruption of these repulsive places. It was not until after the Restoration that a royal ordinance (dated April 9, 1819) was issued, instituting a commission consisting of eminent publicists and jurisconsults, who were instructed to study the regulations of the prisons and to propose such ameliorations as they might deem compatible with public safety. These commissioners continued their functions for ten years, and introduced many excellent modifications in the interior management of prisons, abolishing inhuman punishments, providing warmth, lightsufficient food, and fresh air, enforcing cleanliness, etc. Such reforms were steps in the right direction, and very good so far as they went; but they by no means went to the root of the matter, vis., to the question, not of neutralizing, but of utilizing the lawless and eriminal forces of society. Summary decapitation is no doubt the quickest and surest method of neutralization, but it is very far from being the best and truest economy in the long run.

At present there are nine prisons in Paris, only two of which, namely, Saint Lazare and La Conciergerie, are monuments of the old monarchical régime, and date back to a period previous to the Revolution; the remaining seven, viz., Le Dépôt, Mazas, Sainte Pélagie, La Santé, La Petite Roquette (a kind of house of correction), La Grande Roquette (a prison for persons condemned to death or the galleys), and Clichy (the debtor's prison), are all establishments of the present century. As soon as a culprit passes the threshold of the prison, a careful descriptive record is made of his person, his clothes, his social rank and calling, a cory of the sentence; with the date of its beginning and the time of its duration. He is then labeled with a

number, by which he is henceforth to be called (his real name is never spoken in the prison); after which he is put into a bath (often a very necessary operation), and clothed in the gloomy garb of the penitentiary and conducted to his cell. The garments which he wore to the prison are thoroughly fumigated with sulphur, in a room known officially as the disinfecting chamber (la chambre de désinfection). It would be difficult to find in Jewry, or in the Ghetto, such varieties of ragged habiliments as are here presented to the view, hanging in clouds of sulphurcus smoke that seizes you by the throat and brings tears into your eyes. After twentyfour hours exposure to these intense fumes, when it is supposed that every creeping thing on the poor tatters has been destroyed, and every vestige of animated nature has disappeared from them, the apparel of each prisoner is folded with care, wrapped up in coarse packing cloth, numbered, and deposited by itself. Nothing can give a more fearful picture of utter destitution and degradation than these little packages of clothing, shoes, hats, trousers, etc., in all stages of dilapidation, and some of them still reeking with intolerable odors, of which not even the purgatory of burning sulphur has been able entirely to purify them.

Mazas, which was built between 1841 and 1850, may be taken as a representative of French cellular prisons. It consists of a large circular wall with a rotunda in the center of the inclosed area, the two being connected by eight detached buildings like spokes of an immense wheel, of which the rotunda corresponds to the hub and the outer circular wall to the tire and felloes. In these isolated buildings are the cells, every one of which is visible to the guards stationed in the center of the rotunds. The average number of prisoners is about twelve hundred. They are guarded night and day by sixty-two keepers, who are under the command of a brigadier, assisted by seven subalterns. The system of solitary confinement is not so vigorously carried out in French prisons as in those of our own country. Although adopted in principle in Mazas, it is so modified and mollified in practice as to be robbed of its chief horrors, or at least of its most shocking inhumanities. Society has the right to protect itself against malefactors by depriving them of their liberty, or even perhaps of their life, but it certainly has no right to adopt toward them any treatment that will tend inevitably to wreck them in mind and body and reduce them to a condition of imbecility and incurable idiocy. This moral limit to penalty is nowhere more clearly and carefully recognized than in the administration of the French prisons which are conducted on what is known as the Philadelphian system. Solitude for life, without ever hearing a human voice or seeing the hand that provides the daily rations of food, does not strike the common eye so terribly as the darkness and fetters and filth that characterized the dungeons of the old régime. Reflection is essential to a comprehension of its real horror. And we can easily understand how a thinker, like Mr. John Stuart Mill, should favor capital punishment as less severe and more humane than this perpetual isolation from mankind, which is only a system of gradual brutalization.

Sainte Pélagie and Saint Lazare (the former for men and the latter for women) are conducted on what might be called the sociable, in distinction from the solitary system. The consequence is that these establishments are precisely what Sydney Smith nearly half a century ago said the English prisons were, namely, large schools, maintained at the public expense, for the encouragement of vice and for providing the community with an inexhaustible supply of burglars, thieves, profligates, and murderers, schools in which the youth who evinces the slightest propensity for these pursuits, is put to his studies under the most accomplished villains and cut-throats that the country can furnish, in order that, as soon as he regains his freedom, he may be fully prepared to enter upon a career of bold and successful crime. The result of this promiscuous intercourse of all classes of malefactors, by night and by day, in dormitories and in workshops, is a moral corruption surpassing all conception. A few years since, a clandestine correspondence of the prisoners with each other fell into the hands of the warden, and was laid before a magistrate in answer to his inquiries as to the condition of the prison. The picture of depravity which these communications revealed, was disgustingly beyond all description, Still more lamentable, if possible, is the condition of the women in Saint Lazare. Every young girl, whom some slight offense has caused to be committed to this place, comes out from it irremediably vicious and corrupt in every fiber of her moral being. "Only a miracle," says M. Du Camp, "can save her, and the age of miracles is passed." It is like a hospital in which there are no separate wards for contagious diseases, but where the whole atmosphere is impregnated with infection. The Prefect of Police has, since 1842, periodically protested against this state of things, but the Municipal Council of Paris has as uniformly pleaded poverty as an excuse for

inaction. "Alas!" says a recent French writer, "that a city with so many magnificent and useless barracks, so many new and splendid churches which gratify the vanities of external morality, has not a single house of refuge, where young girls, whom a moment of forgetfulness has caused to fall, and who ought to be saved at any price and restored to virtue and to the family, could find a shelter for repentance and reformation apart from common prostitutes and incorrigible thieves! But so it is with us in France; provided we may have the superfluous, we can cheerfully do without the necessary." In this respect, however, the boys are better provided for than the girls, since they have a special establishment set apart for them, viz., La Roquette, in which are confined culprits under sixteen years of age, many of whom are received here for correctional purposes upon the accusation of their own parents. This latter class wear red numbers to distinguish them from the remaining prisoners whose numbers are black. In the month of June last, there were 151 inmates of La Roquette, 82 of whom were shut up there at the request of their parents, who in many cases, no doubt, accuse their children falsely of peccadilloes, for the purpose of having them kept at the public expense and instructed in reading and writing—a significant commentary on the domestic life of the lower classes in Paris.

All the prisons in Paris are also provided with libraries, to the increase and maintenance of which a sum of five hundred dollars is devoted annually by the Prefecture of Police. The books most in demand are the novels of Sir Walter Scott and J. Fennimore Cooper, books of travel and adventure, etc.; historical and scientific works are seldom called for, and treatises on morals and religion remain almost wholly untouched, as their immaculate leaves and covers indicate. Many of the books contain marginal notes in pencil, as well as drawings, of a character not suggestive of high artistical or ethical attainments on the part of the prisoners.

Spurs and Reins for those who Need them.

BY J. E. SNODGRASS.

PLATO is represented as remarking of two of his scholars, Zenocrates and Aristotle, that the former needed spurs and the latter reins.

Here we have the types of the greater part of mankind, and in contemplating them we discover the secret of the discordant state of society as it is. What else explains the disagreement which has ever been manifested between the "Conservatives" and the "Progressives"—the one class holding back, the other rushing forward, with a mutual persistence which is as mutually condemned and denounced?

Could we, in some way, put a spur, now and then, in the flank of the "Conservative," and a rein upon the neck of the "Progressive," it might prove a lucky arrangement for society at large, and help the race in that progress born of radical thought, but considerate action—which is the only true progress.

The same is true of individual habits.

Some persons are too "fast," not merely in the popular meaning of that phrase, but other-wise. Metaphorically speaking, these need reins. Others are too slow when duty calls to action, because of indolence or timidity, or of both, not to mention want of principle, and therefore they need spurs.

The purpose of the series of laconic essays, commenced below, is to furnish "Spurs and Reins for such as need them." If any of my readers feel sure they don't need them, they will please leave them for the benefit of some-body else who does.

LOST DAYS.

A Roman Emperor, on reviewing the occurrences of a certain day, exclaimed, "Diem perdidi"—I have lost a day! A consciousness that he had not performed a single good deed, during the hours that made up that day caused the exclamation. That was certainly a sufficient reason for the feeling to which he gave utterance. It would be a sufficient reason for persons holding far less influential positions than an Emperor's. We were about to add, "and therefore less responsible." But we do not know that the responsibility for time lost, which attaches to us all, can be lessened or increased,

strictly speaking, by our position. Certainly, in a primary sense, it can not be, for we all have our duties to perform. These each day brings with it. They are our individual duties. Nobody else can perform them for us. We need not specify what these duties are. Suffice it to say that they may be summed up in the very converse of the self-confession of the Emperor: "I have not lost this day. I am conscious of having used its precious minutes in deeds of usefulness, and I have reason to believe that the world is the better for my having lived twenty-four hours longer!"

Here we have the rule: The use of our time to the best possible advantage, so as to perform each the duties of his own earthly mission, in his own sphere, to the best of his abilities and opportunities. If all would study and practice this rule, there would be no need of the confession, "I have lost a day!" And a solemn consideration that is, when we come to reflect upon its consequences.

Truly saith the proverb, "Time and tide wait for no man." And since every day brings its own work, there is no way in which our "lost days" can be reclaimed!

" NO."

That is a small word. It was quickly written, almost as quickly put into type. It is very easily pronounced in a sentence. But, of all the words in our English vocabulary, there is none so difficult to utter under circumstances not a few, as "no."

Young man, you know this to be true—true to your sorrow, it may be. Is it not so? Recall the transactions of the past year, of the past month, of the past week, nay, of even the past day, and answer me frankly!

When asked to indulge in some extravagance or frivolity, not to say vice or crime, by your schoolmates or social companions, did you find it easy to say "no?" Did not your tongue falter? Did it not, in Scripture phrase, cleave to the roof of your mouth? Mentally, you answer "yes"—for you will not dare to say "no" to these questions.

Learn, then, to use the little word "no." Get it literally "by heart." Its prompt use will save your feet from many a snare set for the unwary. Let it become a habit with you to say "no" promptly and without a moment's hesitation, and all will be well, where, otherwise, all would be ill.

But not to the young alone, is "no" a word of importance. The want of its prompt utterance has been the ruin of many a family, show-

ing how much of weal, or woe, hangs upon a little word!

When you were urged by your vain wife, or your vainer daughter, to change your customary mode of life—living, as you then were, within your income—to move into a more fashionable locality, then would have been the time to say "no." But you hesitated, and advantage was taken of your want of firmness. That was the moment from which your pecuniary ruin dated. A word would have saved you—that little word was "no."

You were asked to indorse for a friend—perhaps to indorse a note in blank—or to draw a check in the same reckless form. You said "yes"—or what is the same thing, or worse, you said nothing. You were mum. You signed it because you had not schooled yourself to say "no." That act ruined you, financially! See to it, henceforward, that you are ready, when needed, to say "no!"

BAD HABITS IN THE EGG.

Man is said to be a creature of habit. There is no harm involved in this fact, necessarily, if it be so—that is, if his habits turn out to be good ones. But supposing they are bad ones, how is he to get rid of them? That is a question more easily asked than answered satisfactorily, especially if it have reference to long-established habits—"confirmed habits," as we generally express it.

Bad habits should be taken in the bud. Then they are not so hard to destroy as afterward. To change the figure, they should be taken in the egg. To enforce, more fully, the comparison I have in view, I will give a fable. It is nothing new, but it will be not the less instructive because perhaps familiar to some of my readers. It is that of the ichneumon and the crocodile.

A crocodile of unusual size and voraciousness, according to the fable, made its appearance on the banks of the Nile. It spread terror throughout the neighborhood with its destructiveness. It devoured not only the flocks, but even their shepherds. Various were the plans, suggested by one and another, for its destruction. But they all failed.

At length the alarm became so great and general, that a meeting of the sufferers was called for consultation. While the people were in their dilemma, some one mentioned the ichneumon, as an animal known to be very destructive of crocodiles. Being called for, he came forth, and addressed the meeting thus:

"It is true that I have been useful in keeping down the numbers of the crocodiles. But you have mistaken my sphere of action. I am a very small animal, as you see. I can do nothing with such a monster as that! You should have called on me sooner. But, though I can not be of any service to you in the present emergency, I will give you a piece of advice which may be of service in the future:

"It may be a glorious achievement to overcome a great evil, but it is the part of wisdom to
prevent it, or at least to attack it in the beginning. You feel a contempt for the crocodiles
while they are young. Now you dread and fly
from them. Small and feeble as I am, I have
been more useful in the business of their destruction than you. My plan is, to attack them in the
egg."

So it should be with bad habits. They should not be suffered to grow into crocodile-like monsters. It is difficult to destroy them, then. They should be attacked "in the egg."

But I need not trouble to make a profitable application of this fable to my subject. It is done already in the following lines:

"This fable, dear friend, is intended to show The danger of suffering bad habits to grow; The fault of a week may be conquered, 'tis clear, Much easier than it it went on for a year!"

A TOCSIN FOR THE TIMES.

This is the tocsin which, more than all others, I delight to sound: "Educate, Educate!" Not in any narrow or exclusive sense of the word, but in the widest sense conceivable. Educate physically, mentally, morally, religiously, every way! Expand the mind. Expand the heart. Expand the soul. There is no fear of educating the people too much, so long as their teachers, in youth or in age, are wise and good.

Nature may have been bountiful. She may have been even profuse to prodigality, and shown seeming partiality in her bestowals of intellectual capacity. But still it requires education to call forth and direct aright the powers of the mind.

A few, among such as have neglected educational appliances when young, have made up for their loss, in some degrees, when grown to manhood or womanhood. But they depended on education at last. It may have been mainly self-education—that is, education without assistance from personal teachers—but it was education of some sort, after all.

When, on a certain occasion, Dyonysius, the Syracusian tyrant, insisted upon being instructed in geometry, by Archimedes, according to some easier and more rapid method than that in vogue, the philosopher is said to have replied, "There is no royal road to science." Truer word never was spoken by human lips, ancient or modern.

We have seen that nature can not enable us to dispense with instruction. The same is true of money. Wealth may pay for education. It can buy no substitute. Educate, then, educate, educate!

Oh, ye hitherto inconsiderate fathers and guardians! let me realize that I have indeed spoken unto wise men, by heeding what I say, when I again ring, in your ears, this "tocsin for the times:" EDUCATE! EDUCATE!! EDUCATE!!

LATIN AND GREEK.—I can not doubt that were the Greek and Latin languages and literature annihilated and forgotten, the progress of the world in thought, to say nothing of science and material form, would not be perceptibly retarded. Language is the creature more than the creator of mind. Thought will make its expression. The disuse of a modern language and the substitution of another will not necessarily change the mental power nor the temperament of a people. If the millions of Germans and from other nationalities in America adopt the English language as the vernacular speech of their children, they will still have the same temperament, and may reach the same culture that they might have had with their old languages. So there is no magical incommunicable power about the Greek and Latin that can not possibly be reached in any other way.—Pres. E. O. Haven.

THE MUSIC OF THE FUTURE.-Will there ever be a distinctly American music? When the present various forms of national life are molded into a homogeneous American people, there will be a native music. nationalities of the earth are gathered here; lively France sends us her songs; solid England brings its carol; Italy brings her wonderful power of melodizing love and joy; the native melodies of Germany, Scotland, and Ireland all swarm into the New World. When all these characteristics are lost from view, the people so created will have a music that shall be as original as man. The nationalities are all welcome. This country's great idea shall reduce them all to harmony; their life-blood shall drop in new melodies wrung from them by toil, and the land shall be full of melody, over mountain, and prairies, and by either sea. - John Weiss.

OUR STUDIES IN PHYSIOLOGY.

SECOND STUDY.

1. lar; that is to say, they are traversed by minute and very close-set canals, which open into one another so as to constitute a small-meshed network, and confer upon these parts a spongy texture. The canals, or rather tubes, are provided with distinct but very delicate walls, composed of a structureless membrane, in which at intervals small oval bodies, termed nuclei, are imbedded.

These tubes are what are termed the capillaries. They vary in diameter from one-fifteen-hundredth to one-twenty-hundredth of an inch; they are sometimes disposed in loops, sometimes in long, sometimes in wide, sometimes in narrow meshes; and the diameters of these meshes, or in other words, the interspaces between the capillaries, are sometimes hardly wider than the diameter of a capillary, sometimes many times as wide. These interspaces are occupied by the tissue which the capillaries permeate, so that the ultimate anatomical components of every part of the body are, strictly speaking, outside the vessels, or extra-vascular.

But there are certain parts which, in another and broader sense, are also said to be extra-vascular or non-vascular. These are the epidermis and epithelium, the nails and hairs, the substance of the teeth, and the cartilages; which may and do attain a very considerable thickness or length, and yet contain no vessels. However, as we have seen that all the tissues are extra-vascular, these differ only in degree from the rest. The circumstance that all the tissues are outside the vessels by no means interferes with their being bathed by the fluid which is inside the vessels. In fact, the walls of the capillaries are so exceedingly thin that their fluid contents readily exude through the delicate membrane of which they are composed. and irrigate the tissues in which they lie.

THE CAPILLARIES.

2. Of the capillary tubes thus described, one kind contains, during life, the red fluid, blood, while the others are filled with a pale, watery, or milky fluid, termed lymph, or chyle. The capillaries, which contain blood, are continued on different sides into somewhat larger tubes, with thicker walls, which are the smallest arteries and veins.

The mere fact that the walls of these vessels

are thicker than those of the capillaries constitutes an important difference between the capillaries and the small arteries and veins; for the walls of the latter are thus rendered far less permeable to fluids, and that thorough irrigation of the tissues, which is effected by the capillaries, can not be performed by them.

The most important difference between these vessels and the capillaries, however, lies in the circumstance that their walls are not only thicker, but also more complex, being composed of several coats, one of which consists of muscular fibers, which are directed transversely, so as to encircle the artery or vein. This coat lies in the middle of the thickness of the wall of the vessel; inside it, and lining the cavity of the vessel, is a layer of very delicate, elongated, epithelial cells. Outside the muscular layer is a sheath of fibrous tissue. The muscular fibers themselves are flattened, spindle-shaped bands, each with an elongated rod-like nucleus in the middle. When these fibers exercise that power of contraction, or shortening in the long, and broadening in the narrow directions, they, of course, narrow the caliber of the vessel, just as squeezing it in any other way would do; and this contraction may go so far as, in some cases, to reduce the cavity of the vessel almost to nothing, and to render it practically impervious.

ARTERIAL CONTRACTION.

The state of contraction of these muscles of the small arteries and veins is regulated, like that of other muscles, by their nerves; or in other words, the nerves supplied to the vessels determine whether the passage through these tubes shall be free and wide, or narrow and obstructed. Thus while the small arteries and veins lose the function of directly irrigating the tissues which the capillaries possess, they gain that of regulating the supply of fluid to the irrigators, or capillaries themselves. The contraction, or dilatation, of the arteries which supply a set of capillaries, comes to the same result as lowering or raising the sluice-gates of a system of irrigation canals.

3. The smaller arteries and veins severally unite into, or are branches of, larger arterial or venous trunks, which again spring from still larger ones, and these, at length, communicate by a few principal arterial and venous trunks with the heart.

DIFFERENCE BETWEEN ARTERIES AND VEIKS.

•The smallest arteries and veins, as we have seen, are similar in structure, but the larger arteries and veins differ widely; for the larger arteries have walls so thick and stout that they do not sink together when empty; and this thickness and stoutness arises from the circumstance that, not only is the muscular coat very thick, but that, in addition, a strong coat of highly elastic fibrous substance is developed outside the muscular layer. Thus, when a large artery is pulled out and let go, it stretches and returns to its primitive dimensions almost like a piece of india-rubber.

The larger veins, on the other hand, contain but little of either elastic or muscular tissue. Hence, their walls are thin, and they collapse when empty.

VALVES OF THE VEINS.

This is one great difference between the larger arteries and the veins; the other is the presence of what are termed valves in a great many of the veins, especially in those which lie in the muscular parts of the body.

4. These valves are pouch-like folds of the inner wall of the vein. The bottom of the pouch is turned toward those capillaries into which the vein opens. The free edge of the pouch is directed the other way, or toward the heart. The action of these pouches is to impede the passage of any fluid from the heart toward the capillaries, while they do not interfere with fluid passing in the opposite direction. working of some of these valves may be very easily demonstrated in the living body. When the arm is bared, blue veins may be seen running from the hand, under the skin, to the upper arm. The diameter of these veins is pretty even, and diminishes regularly toward the hand, so long as the current of the blood, which is running in them, from the hand to the upper arm, is uninterrupted.

But if a finger be pressed upon the upper part of one of these veins, and then passed downward along it, so as to drive the blood which it contains backward, sundry swellings, like little knots, will suddenly make their appearance at several points in the length of the vein, where nothing of the kind was visible before. These wellings are simply dilatations of the wall of the vein, caused by the pressure of the blood on that wall, above a valve which opposes its backward progress. The moment the backward impulse ceases the blood flows on again; the valve, swinging back toward the wall of the vein, affords no obstacle to its progress, and

the distension caused by its pressure disappears.

The only arteries which possess valves are the primary trunks—the aorta and pulmonary artery—which spring from the heart, and they will be best considered with the latter organ.

THE LYMPHATIC SYSTEM.

5. Besides the capillary network and the trunks connected with it, which constitute the blood-vascular system, all parts of the body which possess blood capillaries—except the brain and spinal cord, the eyeball, the gristles, tendons, and perhaps the bones*—also contain another set of what are termed lymphatic capillaries, mixed up with those of the blood-vascular system, but not directly communicating with them, and, in addition, differing from the blood capillaries in being connected with larger vessels of only one kind. That is to say, they open only into trunks which carry fluid away from them, there being no large vessels which bring any thing to them.

These trunks further resemble the small veins in being abundantly provided with valves which freely allow of the passage of liquid from the lymphatic capillaries, but obstruct the flow of any thing the other way. But the lymphatic trunks differ from the veins, in that they do not rapidly unite into larger and larger trunks, which present a continually increasing caliber and allow of a flow without interruption to the heart.

On the contrary, remaining nearly of the same size, they, at intervals, enter and ramify in rounded bodies called lymphatic glands, whence new lymphatic trunks arise. In these glands the lymphatic capillaries and passages are closely interlaced with blood capillaries.

THE THORACIC DUCT.

Sooner or later, however, the great majority of the smaller lymphatic trunks pour their contents into a tube, which is about as large as a crowquill, lies in front of the backbone, and is called the thoracic duct. This opens at the root of the neck into the conjoined trunks of the great veins which bring back the blood from the left side of the head and the left arm. The remaining lymphatics are connected by a common canal with the corresponding vein on the right side.

Where the principal trunks of the lymphatic system open into the veins, valves are placed, which allow of the passage of fluid only from

^{*}It is probable that these exceptions are apparent rather than real, but the question is not yet satisfactorily decided.

the lymphatic to the vein. Thus the lymphatic vessels are, as it were, a part of the venous system, though, by reason of these valves, the fluid which is contained in the veins can not get into the lymphatics. On the other hand, every facility is afforded for the passage into the veins of the fluid contained in the lymphatics. Indeed, in consequence of the numerous valves in the lymphatics, every pressure on, and contraction of, their walls, not being able to send the fluid backward, must drive it more or less forward, toward the veins.

6. The lower part of the thoracic duct is dilated, and is termed the receptacle or cistern, of the chyle. In fact, it receives the lymphatics of the intestines, which, though they differ in no essential respect from other lymphatics, are called lacteals, because, after a meal containing much fatty matter, they are filled with a milky fluid, which is termed the chyle. The lacteals, or lymphatics of the small intestine, not only form networks in its walls, but send blind prolongations into the little velvety processes termed villi, with which the mucous membrane of that intestine is beset. The trunks which open into the network lie in the mesentery (or membrane which suspends the small intestine to the back wall of the abdomen), and the glands through which these trunks lead are hence termed the mesenteric glands.

7. It will now be desirable to take a general view of the arrangement of all these different vessels, and of their relations to the great central organ of the vascular system—the heart.

All the veins of every part of the body, except the lungs, the heart itself, and certain viscera of the abdomen, join together into larger veins, which, sconer or later, open into one of two great trunks termed the superior and the inferior vena cava, which debouch into the upper, or broad end of the right half of the heart.

All the arteries of every part of the body, except the lungs, are more or less remote branches of one great trunk—the aorta, which springs from the lower division of the left half of the heart.

ARTERIES OF THE LUNGS.

The arteries of the lungs are branches of a great trunk springing from the lower division of the right side of the heart. The veins of the lungs, on the contrary, open by four trunks into the upper part of the left side of the heart.

Thus the venous trunks open into the upper division of each half of the heart—those of the body in general into that of the right half; those of the lungs into the upper division of the left half; while the arterial trunks spring from the lower moieties of each half of the heart—that for the body in general from the left side, and that for the lungs from the right side.

Hence it follows that the great artery of the body, and the great veins of the body are connected with opposite sides of the heart; and the great artery of the lungs and the great veins of the lungs also with opposite sides of that organ. On the other hand, the veins of the body open into the same side of the heart as the artery of the lungs, and the veins of the lungs open into the same side of the heart as the artery of the body.

The arteries which open into the capillaries of the substance of the heart are called coronary arteries, and arise, like the other arteries, from the aorta, but quite close to its origin, just beyond the semilunar valves. But the coronary vein, which is formed by the union of the small veins which arise from the capillaries of the heart, does not open into either of the vense cave, but pours the blood which it contains directly into the division of the heart into which these caves open—that is to say, into the right upper division.

VEINS OF THE ABDOMEN.

The abdominal viscera referred to above, the veins of which do not take the usual course, are the stomach, the intestines, the spleen, and the pancreas. These veins all combine into a single trunk, which is termed the vens ports, but this trunk does not open into the vens cave inferior. On the contrary, having reached the liver, it enters the substance of that organ, and breaks up into an immense multitude of capillaries, which ramify through the liver and become connected with those into which the liver called the hepatic artery, branches. From this common capillary mesh-work veins arise, and unite, at length, into a single trunk, the hepatic vein, which emerges from the liver, and opens into the inferior vena cava. The portal vein is the only great vein in the body which branches out and becomes continuous with the capillaries of an organ, like an artery.

FEEDING Horses.—Rack feeding is wasteful. The better plan is to feed with chopped hay from a manger, because the food is not then thrown about and is more easily chewed and digested.

EDITORIAL DEPARTMENT.



NEW YORK, FEBRUARY, 1870.

WATER.

"To the days of the aged it addeth length;
To the might of the strong it addeth strength;
It freshens the heart, it brightens the sight;
'Tis like quaffing a goblet of morning light.'

MF THE PUBLISHERS do not hold themselves as indorsing every article which may appear in THE HERALD. They will allow the largest liberty of expression, believing that by so doing this magasine will prove to be more useful and acceptable to its patrons.

EF Exchanges are at liberty to copy from this magasine by giving due credit to The Herald of Health and Journal of Physical Culture.

TOPICS OF THE MONTH.

BY M. L. HOLBROOK, M. D., EDITOR.

DEATH OF EDWIN M. STANTON.—The Irish orator, Henry Grattan, in his celebrated description of the elder Pitt, has two brief sentences which, for several years past, have seemed to us a happy delineation of the heroic man whose recent death gave such a shock to the whole nation: "The Secretary stood alone. Modern degeneracy had not reached him."

Stinton was, by universal consent, THE SEC-RETARY. Had he lived to take upon him the silken robes of a Justice of the Supreme Court, the old name, Secretary Stanton, would long have clung to him. It would have been hard for us to call him "Judge." Quite aside from the fact that his impetuous, flery, and energetic nature did not suggest the possession of judicial attributes, our mouths had long grown used to the simple title under which he towered to greatness; and it would have given a sort of jealous pain to us to have laid aside the grand old name even for a grander new one. So, as the Sec-RETARY he goes into the great scroll of history. And the latest generations, gazing upon the record of the titanic events which filled our time. and reviewing the solitary grandeur of this man's career during the war, and the antique style of his patriotism, will be able to feel, even more than we can, the sublime fitness of Grattan's words, in their transposed application: "The Secretary stood alone. Modern degeneracy had not reached him."

There are some men who seem to be the peculiar instruments of Providence. There was that about Secretary Stanton which made him seem so to millions of minds in America. Without uttering the jargon of religious cant, without even the ordinary public profession of religious belief, he impressed all good men who approached him with the idea of a devotion to his work that was in the most genuine and awful sense of the phrase, religious. The idea of the nation's safety through fierce, aggressive, victorious fighting amounted, in his case, to an inspiration. He not merely held it; he was possessed by it. Accordingly many of his sentences in official orders, and even in private conversation, had the poetry, the passion, the lyrical movement, the irresistible divine force of an old Hebrew prophet's burden. The spirit of the Lord was upon him. The way to be taken,. however dark and dubious to others, was all luminous and sure to him. He had no doubts of his own to solve; and this gave him a certain harsh, inevitable impatience with the doubts of others. The invisible sword of the Lord was intrusted to him. He waved it over the hosts of the people, and by the light and the fury of

its flashing they were to move onward against the traitors, and to trample them to the earth. That was his conscious mission. His mighty lion-heart beat so fiercely, as he sat in the War Office, that its throbbings were felt by the most distant army and general in the field. He was a reservoir of advancing vehemence for the supply of half a million of soldiers. They who stood near him, at times complained of the roughness and the seeming madness of his energy; but they forgot that he was the incarnation of the energy of a whole nation. How tremendous was the outcry of his joy when a grand deed was done! What immortal rapture there was in his congratulation of a daring and successful soldier! How terrific was his rage over a cowardly, an imbecile, an indolent act! . Some people thought these expressions of his too impassioned to be in good taste. But his . joy, his congratulation, his rage, were on a scale of magnitude and intensity not adapted to the · dimensions of a fashionable drawing-room, but to the colossal compass of a whole hemisphere . rocking with the earthquake of war.

On hearing of the sudden death of Mr. Stanton, perhaps many of us felt a pang of disappointment at his being taken away so soon, and especially before enjoying the possession of the exalted office into which he would have been inducted in a few days. Yet further reflection will convince us that even his death was fortun-. atc. A great historic character gains by its unity. Stanton's career as a herculean Warminister was ended. Even high success upon the judicial bench, had that been possible to one · of his stormy temperament, would have taken away somewhat from that severe unity of renown with which he now takes his place among the immortals. He lived long enough to see the completeness of his own victorious work, to behold the dawning of a better day for his · country, to receive at the hands of the President and of the Senate the gift of a stately office, and to hear in the congratulations of his countrymen over that appointment the prophecy of his perpetual praise. Nothing could have been added to the supremacy of his fame or of

his felicity by larger life; and, now, death consecrates him! Death shuts the gates upon envy! Death saves him from the chances of the future! Death rescues him from the bickerings and the violences of further political strife. The gods have rewarded this hero of a valiant life with the infinite guardon of a fortunate death! He is no longer ours, either to praise or blame! He is securely in the custody of

"all that regiment of muffled years

Now huddled in the rear and skirts of time."

We make no apology to any reader for this tribute to Edwin M. Stanton. Indeed we are not in the habit of making apologies for any thing which we deliberately do in the discharge of our editorial duties. But in thus speaking of the great Secretary, we conceive ourself to be directly promoting the avowed purpose of this journal. To advocate a Higher Type of Manhood-Physically, Intellectually, Morally: that is our business. By that inscription we are limited to no contracted scope of thought and labor. In fact, our mission is as comprehensive as the nature of man and the interests of human society. And how better can we inculcate a higher type of manhood than by pointing our readers to such illustrious examples of that higher type as Providence occasionally bestows upon the world! We point to Edwin M. Stanton as to a magnified human figure—a brilliant and conspicuous embodiment of the higher manhood of our race.

And, in his life and death, there are two lessons which connect themselves especially with our teachings concerning the value of health.

The first is given to us in his endurance of the appalling labors and excitements of the War Office. He had passed the meridian line of life when he entered upon that office. He had been endowed at the outset of life with a superb physical constitution. Now, if he had squandered his health—dissipating the endowment of corporeal vigor which Nature gave him—he could never have borne the toils of his great career. He would have broken down under

them. On the little item of good health, then, preserved by a life of wholesome and temperate conduct, rested not only the possibility of his great historic renown, but of his beneficent patriotic service. Let young people linger over this simple health-lesson! Cherish health as the very life-element both of greatness and of usefulness. With weak and sickly bodies, even great souls must decline the inspiring calls of opportunity!

But Stanton died at last from the effects of over-work. Yes, even he broke down and perished untimely under the assaults of labor and care. And here is an instance in which the sacrifice of health was not sinful but holy! How often we are forced to look upon men wrecked in health and life by ignoble causes, by sensual excesses, by intemperance in eating and drinking, by unnecessary devotion to money-getting! In all such cases, we raise our voice, and we say, This is suicide, and therefore sin. Mark the magnificent contrast presented by the case of Stanton. His death was not suicide; it was martyrdom, and therefore noble! That is the second lesson. There are objects for which we · have a right to sacrifice health!

Do Animals Progress.—The old theory is that animals do not progress mentally as do human beings, but this doctrine is probably not correct. Animals brought under domestication are superior to those that are wild, as in the case of the wild dog and horse. The influence of the improved condition of the earth over that of ancient times, makes it possible for a higher type of animals and plants to live, and do we not have them? Who does not believe that the animals of the present geological age are superior in intellect to those, for instance, of the miocene age? A writer in "Nature" says that

"The fear of man is a slowly-acquired instinct. Mr. Darwin, in his account of his travels, gives some interesting instances of the fearlessness of birds little exposed to man in South America. The crew of Byron's vessel were astonished at the manner in which the wolf-like dog of the Falkland Islands approached them merely out of curiosity. Compare these traits with the admirably organized expeditions for the plunder of baboons, elephants, etc., and the rude customs acted upon for self-preservation of the half-wild dogs of the Peninsula and the East, wherein the care of the weak and young, the usefulness of sentries, the value of signals, the difference between sham and real danger, and the advantage of confusing traces of retreat, seem all to be known, and it will be pretty evident that man, the thinker, has to a considerable extent reacted on animals wild and domestic. Even in my own quarter it is the steady belief of the shepherds that the common sheep-dog has progressed in intelligence and docility within the last fifty years by careful selection. 'Where the dog is not valued for intelligence, as in some Eastern countries, it is a much more stupid animal than with us."

EDUCATION.—Not the least interesting portion of the Message of Governor Hoffman to the State Legislature, is that referring to the public schools of New York as a State. By this document it appears that more than six millions of dollars were expended last year in payment of the salaries of teachers. Nearly ten millions have been disbursed in support of the institution in various ways. This is certainly a liberal expenditure, and shows that the Empire State is not devoid of a lively sense of the importance of training the masses, and protecting them from the unrelenting ills of ignorance, that fruitful source of vice and crime.

A glance at the statistics of Pennsylvania, as afforded by the Governor of that State, shown an expenditure of little more than three millions and a half for teachers' wages; total cost of the public schools rather less than seven millions. More than eight hundred and fifteen thousand children attend the public schools of Pennsylvania, and something more than a million in the State of New York. In both States it is to be regretted that a great number of children do not attend any schools.

Governor Hoffman remarks:

"These facts show the great proportions to which our common school system has grown-There may be defects in it, but taken as a whole, it commands and receives the hearty commendation and the cordial support of the great body of the people. Under our form of government, in which the voice of the people is so potential, the State has a direct interest in so educating the masses that they may intelligently understand their duties as citizens; and no tax should be paid more cheerfully than that which enables all, without reference to station or condition, to acquire the rudiments of a good English educa-The Legislature should do all in its power to sustain and perfect a system which aims to accomplish this result."

We regard THE HERALD OF HEALTH as a great educator. While our public schools are aiming to teach the child, we are deing all that in us lies to teach the parent how to think wisely and well, and how to work honorably and with profit. We hold no mean nor insignificant position in the great, voluntary school of public teachers, in which we contend that an honest editor ought to enrol himself.

Baby Dressing. —The practice of enveloping our little ones in a series of firm bands for several months, seems to me a remnant of the days of swaddling cloths.

But, as we do not use the salt to which the Prophet alludes, and as we do wash and dress our babies every day instead of letting them lie swathed and salted for seven days, it seems to me best to devise some way of dispatching the business so that they will enjoy it.

A lady once said to me, "Your baby seems to take washing and dressing as one of the pleasures of life," to which I replied, "And why should she not?" "But," she added, "I should be afraid she would grow out of shape, her clothes are so loose."

Kittens, colts, and lambs are not bound up, and why should babies be, unless they are deformed? For a band next the body we prefer one thickness of flannel, it being more elastic, will fit the form better than one of double linen and is more easily adjusted. In ordinary cases this need be worn but a week or ten days. As to the little shirt, we never like those long strait strips which are always out of place, unless held in place by shirt-bands. A sack, firm, with a fine cord at the neck, which can be drawn up or out as size requires, is preferable. Those of knit worsted are very nice, but in lack of those, make them of fine cotton; linen is too cool for our climate.

Next, the foot blanket, as it is called, should be a width of flannel, three-fourths of an inch in length, plaited at the top and bound with a broad tape, so as to tie about the hips just above the napkin. Thus adjusted, it is easily removed if soiled.

As to the petticoat, we always considered those broad, unyielding bands a tax on the patience of the nurse, and a sort of discomfort to the baby. To put pins through the fine, firm muslin, so that they will scratch you or the baby, and have the band just tight enough to keep in place, and not too tight for the baby's comfort—to do all this, while the victim ories and the mother worries, requires more skill than for a surgeon to dress a wound, especially if his subject has taken chloroform. I have often heard ladies say the bands in which babies are bound were a bother, but then what should they use? Let the shirt be gored, making the top half the size of the bottom. Lay plaits at the back and front, and bind with flannel-ribbon; make a little arm size and shoulder strap of the same. The plaits may be stitched down for four or five inches, so as to fit the form loosely. Tie this behind at the top and three inches below. If the baby is restless or has the colic, you can, without undressing it, carry the hand up under the clothing and rub the back or stomach and bowels to their great relief.

As to high neck and long sleeves, I need not advise those, because they are just now in fashion, good sense and good style being now in "sweet accord."

^{*}From advance sheets of Mrs. Dr. B. B. Gleason's book, in press of Wood & Holbrook, to be ready in March.

DEATH OF MRS. CHARLOTTE D, LOZIER.-In the death of Mrs. Charlotte D. Lozier, M. D., the world has met with a loss that will not soon be repaired. Although but twenty-four years old, she has lived more and accomplished more than thousands do in three-score years and ten. Born in a Western State, left without a mother at an early age, she had much of the care of a family from this time, and yet such was her energy that she obtained a good education, studied medicine for five years, married and became a mother, was appointed Professor in the Woman's Medical College, and obtained a large practice in the city among women, and beside all this was identified with many progressive and charitable movements. Though there were many women physicians in the field before her, yet she was a pioneer, and did much to help her sex to their rights in the study of medicine.

Her motto in life was "Love, Purity, and Truth," and she sought to live in accordance with it.

There is one lesson in her life and death that we may speak of in this connection, perhaps, with propriety. Though thoughtful to a fault of others, she did not sufficiently spare herself, but worked on beyond her strength, and thus perhaps, weakened her bodily powers so much that she had not strength to go through safely with her confinement. Should not women who adopt a professional life, and especially the profession of a physician, estimate their own powers of endurance, and not go beyond it in their work? Should not the medical colleges, where women are taught, make more of a point of obedience to the physical law in their instruction, if they would have their pupils retain their own health as well as become successful practitioners? It is true that physicians can not always obey the laws of health, thoroughly as they may understand them. Often their lives are a sacrifice for others, as much as a soldier's life is a sacrifice for his country, but this ought to be less and less the case as Hygiene becomes understood. We hope by our labors through THE HEBALD OF HEALTH to help on this day.

Mrs. Dr. Lozier had but a few days previous to

her death engaged to become a contributor to The Herald of Health on important subjects, and thus her loss is our loss. She had important matters to communicate to our readers, good words that will now never be said.

Poisoned by Hair Dye.-Dr. Witheray of Iowa, died recently from the effects of lead poison taken into his system through hair dye. He had used the article daily for four years before the fatal effect occurred, although he suffered much from lead colic during this period. Has it never been observed that the artificial coloring given to the hair by hair dyes, from an artistical point of view, is less beautiful than the color it hides? Every hair dye sold in market contains lead or nitrate of silver. The lead poisons the user, while the silver gives a color not at all beautiful, and greatly injures the hair besides. We do not object to coloring the hair if it can be done without risk, but we do object to the use of hair dyes that are poisonous, which not only endangers the health but often the life.

HORTICULTURAL SCHOOL FOR WOMEN.—We have frequently spoken of Mrs. Marwedel's proposed Horticultural School for Women. There is also likely to be a school with a similar object in view near Boston, where twenty-five pupils can be taught a two-years' course. The expense of the enterprise for three years is estimated at about thirty thousand dollars, which includes land, buildings, etc. Why could not our seminaries for girls add this branch of instruction, and thus save much of the outlay for new buildings, land, etc.?

REV. MR. MILBURN'S EYES.—The medical journals speak of the operation performed on Rev. W. H. Milburn's eyes by the great oculist, Græffe, of Berlin, as being, to a certain extent, successful, but as yet his vision is not at all improved. Wherein the success of the operation consists we can not conceive, unless it is because he was not made any worse by it, as is often the case.

How to Treat the Sick.

A SUCCESSFUL EXPERIMENT WITH SMALL POX.—From our well-known correspondent, Mrs. Frances Dana Gage, we have the following communication:

"I spent the year of 1862 among the Sea Islands of South Carolina, and through the spring, summer, and autumn held, by appointment from Gen. R. Saxton, the position of General Superintendent of Paris Island, having under my entire control from four to five hundred 'contrabands'—men, women, and children.

There was not left upon the island one of the original white people, all having fied at the approach of our Army, taking with them every thing of value, and destroying much that could not be carried away.

We were six miles from the fort at Hilton Head, and sixteen from Beaufort above, on the Beaufort River, surrounded with war, yet very isolated.

The best of the slaves that could be kept went with their masters; all the best that could not had gone to the larger towns and cities, and hung around the camps; leaving all the old, crippled, diseased, deaf, dumb, and blind, and the children to what was left.

Nothing can be conceived, for humanity, more deplorably helpless than the condition of this island and its people, as the 'divine' and long-sustained institution of slavery had left it. I mention this only to give color to the almost incredible tale I am about to tell.

The summer was exceedingly rainy, every thing was saturated with heavy showers, succeeded a dozen times a day by intense, burning sunshine, until the cotton plants could not stand apright in the mucky sand hills.

The attack upon Charleston had been made, the battle of Fort Waggoner had been fought. These, and the hot, wet weather, and the fearful skirmishes along the coast, had filled all the hospitals to overflowing, and required the atten-

tion of every physician of the army. While things were in this sad condition, and our sick and wounded boys in blue were calling from Morris Island, Hilton Head, and Beaufort, for all the aid that could be spared, a new difficulty of almost paralyzing magnitude turned all our efforts to our own special charge on Paris Island.

There were but three resident white persons on the island—my daughter, my son, and my-self. My daughter had just returned from a four-weeks term of nursing among the wounded, sick, and dying of Morris Island, when we were startled, one sultry August morning, by a messenger with the news that 'Ellen, ober to Habershom, was awful bad, and wanted the missus. Him had her body, and it was dead agin, two days 'fore, and now she was all over sores like, and dem didn't know how to do.'

As soon as possible, Pasum, our shaggy gray poney, was caught, saddled, and bridled, and Mary, with a satchel-full of comforts suspended from the horn of the saddle, cantered away three miles to relieve, if possible, the 'awful bad' condition of this new patient. Alas! her haste was too slow. 'Ellen was dead!' and the sores revealed themselves as unmistakeable pustules of small pox. She lay upon the mat of dirty blankets where she had died, and by her side was her husband, just developing the same frightful disease; while around them, crowding the stifled cabin, were dozens of men, women, and children attracted by sympathetic curiosity, and breathing in contagion with every breath. The crowd was immediately dispersed. corpse was taken out of the house; Tony, made as comfortable as possible, and then we three held a consultation. We found that a large number had been to a camp-meeting over the river two weeks before, and that already a dozen or more were in the incipient stages of the epidemic; and would be helpless on our hands in a day or two, and their cases would

be followed, probably, to a greater or less extent, on the plantations throughout the island. We were not doctors, but I had some life experience. Still, I felt that we must have counsel, and a messenger was dispatched to Hilton Head for an Army physician. Word was returned 'that half the Army doctors had gone north on furlough, or with the hospital boats, and not one could be spared from the fort for an hour; there were not half enough to supply soldiers' needs, and we must do the best we could.' Like word came back from the fort at Beaufort. We resolved to do our best. I ordered a party of well ones to gather oyster shells, and burn a lime kiln; then to whitewash the quarters. Others were set to work raking up the rubbish, cutting down weeds, and covering with fresh earth all filthy holes and corners. As soon as possible, I had fires set in the heaps of cotton stocks, brush, and vines, and kept them burning. To answer the cry for "physic," which the colored people demand (if any thing is the matter) with an insatiate desire, we resorted to a case of Homosopathic medicines, and a book of Pulty's Practice, which some kind friend had donated, with other good things, for the use of the contrabands. It had been laid on the shelf, as of about as much real use to them as the old volumes of Herodotus, Virgil, and Latin Grammars, that had helped to fill the barrels and boxes. But how easy to be mistaken; we looked out the best remedies for small pox, enjoining it upon every patient, with each class of infinitessimals, to bathe in tepid water, eat no pork; diet upon hominy, gruel, boiled rice and crackers; keep their doors open, their houses clean, to beware of drafts, etc.; for if they did not do all this, our magic medicine would do no good; and with this threat we obtained obedience.

Weeks went by, and still the disease swept on. September came, with drier days and sunnier skies, and by October the last victims seemed to have yielded to the contagion; and though our people, by the hundred or more, were as speckled as guinea birds, there had not been one death among them from small pox, except the first mentioned. Nor did we take the

disease, or suffer, except from our excessive labor and anxiety.

Was it Homosopathy, was it whitewashing, was it disinfection-fires, was it vegetable diet, or was it all these put together, aided by the absence of drugs, that produced this successful result?

Many of the men were of the opinion that they would prefer to die after the most approved practice rather than be cured by a woman, and expressed their contempt and scorn, much as I suppose the Bushnells, Fultons, and Todds, or the medical students of Philadelphia College might have done under like conditions.

Pardon an anecdote: We had an old man on the plantation named Sharker, who had carried the brand of the disease, from head to foot, for fifty years, beside the marks of the whip upon his back, which in his youth had been literally flayed from his neck to his hips, so contracting the muscles that he could not stand upright: yet Sharker was the busiest man on the island, and could do as large an amount of 'nothing at all,' and keep at it, as any one I ever saw. Not having the fear before his eyes that he should 'cotch' the disorder, he made himself a general runner or carrier of news, from quarter to quarter and house to house, calling upon me daily with wonderful accounts of things that never happened, and expecting a large allowance of bread and meat for his services.

When nearly all the patients were well or convalescent, Sharker edified us one day with a wonderful account of his 'good ols Murs's' treatment of small pox. "Gub'um plenty physic, salts, castor oil, and calomel plenty; gub the pickers and all—Miss Mary, if she'm had'um'ud cure'um in no time; but she'm a woman;" and the ineffable disdain that the old victim expressed might have been copied by some of our editorial politicians.

'Why, Sharker,' asked I, "did it cure them all?" 'Lor bless you, no, Missus, not 'spect in natur, 'twor umpossible, most all 'um die; but 'um had the physic just the same. Lor, what dem women know bout 'um things?' said the masculine dignity, as he turned the corner.

CURE OF CHRONIC DIABRHEA.—AN IN-VALID OF TWO YEARS' STANDING.—Mr. Edtor: Thinking that my experience might be of use to some suffering invalid, I propose to give a few circumstances in connection with the above sickness, and my ultimate recovery.

My sickness originated in Shenandoah Valley Va., and in my opinion it was occasioned by eating half-cooked beans. I suffered intensely and long, and during my illness I tried by turns Allopathy, Homeopathy, "Herbopathy," and Water-Cure. The last-named cure did me infinitely the most good, and my ultimate recovery might justly be credited to a water-cure agency—namely, diet.

Many who saw me during my illness thought I must surely die; but, taking a hint from a country newspaper, I concluded to try a diet of boiled skimmed milk, in small quantity, and nothing else; that is to say, milk alone, with nothing added. I slowly drank, with a spoon, an ordinary tea-cup full three times a day, for a period of two days. Then by slow degrees I added some home-made "hard tack" (flour and water rolled thin and baked in a quick oven); also, by turns, some parched wheat in the grain, and a little milk-toast, buttered. Later, some baked mealy potatoes, and finally the ordinary diet, without restriction. My article is becoming lengthy. Hoping my experience may benefit somebody, I hastily close.

Yours

AN OLD SOLDIER.

TREATMENT OF FELON.—This is a deepseated abscess, usually upon the fingers, but may be upon the toe; it generally appears upon the first phalanges of the fingers, seated either in the cellular tissue, the sheath of a tendon, or between the periostum and bone.

SYMPTOMS.

The first sensation is like a needle pricking the bone; the pain increases and extends over the finger, hand, and up the arm to the shoulder. When the hand is hanging down there is a sensation of weight or fullness, the part swells and becomes red, the pain grows more intense, flashes of chill and fever follow, and often the

fever is very high; there is frequently a light colored spot, very small, at the point where the gathering begins. In eight or ten days the swelling begins to subside, the center becomes opaque and the surrounding parts shrink away, the point becomes soft, and then it is matured and is ready for lancing, or in time it may open itself. It should not be opened too soon, as a new cavity may be formed, and the same suffering have to be passed through again; for when there is so much virus thrown into those parts it must be deposited in some cavity.

CAUSES.

These are the use of greasy, high-seasoned food, indigestion, cold extremities, a torpid inactive skin, the want of bathing, and general uncleanliness, constipation, and a predisposition to scrofula.

TREATMENT.

In the early stages, during the first three days, the finger, should be put into as hot water as can be borne, and the temperature gradually increased for thirty minutes, or until the pain subsides, then apply a cool compress; cold compresses should be kept upon the arm, to cool the circulation and prevent the morbid deposits from being carried to the finger. The immersion of the finger in hot water may be repeated when the intensity of the pain requires it; if this treatment is persevered in faithfully it will scatter it.

Should this fail and the swelling increase, hot poultices, made of slippery elm, corn meal, bread and milk, or hops, may be applied, frequently changing them, which will not only relieve the pain, but bring the felon to a head. When it is opened, tepid poultices should be applied for a few days; after the inflammation has subsided it should be dressed with cold compresses, a creamed or oiled cloth, to keep the parts moist and afford protection; if the poulticing is continued too long it will draw effect matter to the part, and prevent its healing. For general treatment, give an occasional vapor, hot sitz, or pack, as may be indicated.—

Dr. McCall.

ANSWERS TO CORRESPONDENTS.

BY A. L. WOOD, M. D.

Treatment of Chicken Pox.—
"What treatment would you advise in a case
of chicken pox?"

In most cases very little treatment, if any, is The celebrated Dr. Marshall Hall laconically says: "In general, no treatment is required in chicken pox. An open state of the bowels; barley water for diet and drink; a cool atmosphere; perfect quiet and repose, are the sole remedies." An excellent plan of treatment, coming as it does from an Allopathic physician. If there is feverishness, a tepid sponge bath once or twice a day may be given. If there is thirst, cold water should be freely drank. Care should be taken to prevent scratching, as the pustules will not heal so readily and there will; be more danger of pitting. itching may be relieved by tepid spongings of the surface.

Treatment of Sprains.—Sprains are usually very painful, and are accompanied with a high degree of inflammation and soreness. The indications are to secure perfect rest of the injured part, and to reduce the inflammation. The inflammation may be reduced by cold wct compresses, renewed as often as they become warm. When the patient has a great deal of vitality and there is a high degree of inflammation, the injured part may be immersed in coldwater, or a stream of cold water may be poured over it until the pain and soreness has been partially removed, when the cold compress should be applied. When there is much pain and tenderness and but little heat, hot fomentations followed by cold compresses, are preferable. When the inflammation and soreness have subsided, friction is useful to promote absorption and strengthen the part. Great care should be exercised about using the injured part until the strength is restored, as it then requires but very little to sprain it again. A second sprain is more difficult to cure than the first.

Does Alcohol Warm?—"Is it not a mistaken idea that alcoholic liquors taken into the system increase the heat of the body and enable it to resist cold better than without their use? My own experience points to that conclusion."

It is. Those who use alcholic liquors can not endure extreme cold nearly as well as those who

do not. This has been proved by experience many and many a time. It was a noticeable and well-marked, fact that, of the men engaged in Arctic explorations, those who used alcoholic liquors most freely were the first to succumb to the influence of the cold, while those who abstained entirely proved to be the best able to withstand it. A man under the influence of liquor will freeze to death much sooner than one who is not. Numerous experiments have been made with the thermometer to test the influence of alcohol upon the warmth of the body and the result is always the same. The temperature always sinks after its use. There is nothing more certain than that the use of alcohol in any of its forms, poisons the system, wastes vitality, lowers the temperature of the body, and weakens the power of the system to resist cold or abnormal influences of any and every kind. Considered in relation to the human system, alcoholic liquors of every kind, whisky, brandy, rum, gin, wine, ale, beer, etc., are poisons, and only poisons, in health and in disease, and under all circumstances and condi- . tions?

"What is the Best Stimulant?"—
There is no such thing as a good stimulant, so there can be no best stimulant. Stimulants are all bad. What is a stimulant? It is a poison. To stimulate means to good, to excite. Alcohol is a stimulant. When alcohol is taken into the stomach the vital powers recognizing it as a poison are excited to resist it and throw it out, which they do with all the force they are capable of exerting, and this action to rid the system of poison is stimulation. Stimulation is really poisoning and nothing else, therefore, if there is a best poison, there is a best stimulant.

How to Prevent Colds.—1. Eat plain, unstimulating food, and avoid rich pies and guddings, rich gravies, fat meats, etc. Especially guard against over-eating. If the bowels are constipated and the other excretory organs over-worked and weakened by the effort to throw off the excess of food, the person is far more liable to colds and to other diseases as well.

2. Avoid hot, stimulating, and alcoholic drinks of every kind. The tendency of all is to weaken.

- 3. Always have your sleeping-room well ventilated. More colds are caused by sleeping in hot, close rooms than in any other manner.
- 4. Take daily out-door exercise according to your strength. It is better, as a rule, to go out in a storm even, if you are suitably protected, than to remain in all day.
- 5. Always breathe through the nostrils and not through the mouth, especially when going from a warm atmosphere to a cold one.
- 6. Dress loosely, so as not to interfere with respiration or the circulation of the blood, and dress so as to keep the extremities, particularly the feet, warm and dry.
- 7. Rub the entire surface of the body daily with a sponge, towel, or with the hands wet in cool or cold water, wipe dry, and rub briskly with a dry, coarse towel until the skin is all in a glow. It can all be done in three minutes. It should be done in a warm room, unless it can be done in a cool room without the least bit of chilliness being produced. The person should feel warmer after the bath than before, offerwise he may know that he has not taken it properly.

Feeding the Sick.—As soon as a person is taken sick his or her friends, as the case may be, begin to question the invalid as to what he , will have to eat, and at once set themselves at work to fix up some tit bit to tempt his appetite. A man crams his stomach at regular and irregular hours, in season and out of season, with all kinds of unbealthful and indigestible substances, until it becomes worn out with the continuous and hopeless task of digesting them, and refuses, from sheer exhaustion, to further perform its function, or the system becomes so clogged from the over-supply that it is obliged to adopt extraordinary measures for relief and a fever is the result. What the stomach then needs is not more food, but rest, entire rest, until the system has had time to remove obstructions, repair damages, and put the machinery in good running order again. When this has been done a demand for food will be made, and then food may be given, but not till then under penalty of a still greater physiological disturbance and a longer continued sickness. This habit of stuffing a person whenever he feels a little unwell, is one of the most mischievous imaginable. Nine cases of ordinary sickness out of ten might be prevented by total abstinence from food for two days, upon the first attack. Do not be afraid of starving. It is perfectly safe in all acute attacks to wholly abstain from food for two days. In most cases this will be all that is | for Infants" is not the thing.

necessary. In that time, often in one day, the system has time to regulate its affairs and all goes on well again. After fasting care should be taken to commence eating gradually, at first taking but a small quantity of some easily digested food. Nearly every case of colds, fevers, and inflammations can be arrested by a few days total abstinence from food at the very outset, with all the water the patient feels inclined to drink.

An Invention Wanted.—An instrument is very much needed to test the purity of the atmosphere, and the person who will invent and introduce such an article, which shall be simple and cheap, will not only enrich himself but confer a great been upon poorly ventilated humanity. We have the thermometer to tell us the temperature of the air, and we have the barometer to tell us the moisture of the air, but we have no means of cheaply and easily measuring the purity of the air. Such an apparatus is needed in every church, lecture-room, and place of public gathering, and in every room occupied by human beings, either in public or in private. If people could see the amount of poison they were taking into their systems at every breath, they would be more careful to secure pure air to breathe. Such an invention is greatly needed, and the want will soon be supplied. Who will be the one to confer this blessing upon the race?

Accidental Poisoning, How Prevented .- Most of the cases of accidental poisoning are the result of mistakes of druggists, and their clerks, in putting up physicians' prescriptions. These mistakes are of almost daily occurrence. Instead of putting up the drug ordered, of which the quantity prescribed will only half kill a man, some other drug, twice as poisonous, is substituted, and the patient suddenly dies-poisoned. Now the true remedy for this is to prohibit the sale of poisonous drugs altogether; but the time has not yet come for that—that is a question of the future, when men shall have learned to think for themselves instead of yielding a blind obedience to whatever their doctor tells them.

Food for Infants .- " What is the proper food for infants who are obliged to be fed with the bottle? What do you think of Liebig's food for infants?"

A full and complete answer to the first question will be found in the June number of THE HERALD for 1869, page 285. "Liebig's Food

NOTICES OF NEW PUBLICATIONS.

WILEY'S ELOCUTION AND OBATORY: Giving a thorough Treatise on the Art of Reading and Speaking. Containing numerous and choice selections of didactic, humorous, and dramatic styles, from the most celebrated authors. For Colleges, Academies, and Seminaries, and a guide for Teachers, Clargymen, and Fublic Speakers. By Charles A. Wiley, Teacher of Elocution. New York: Clark & Maynard, 5 Barclay Street. Chicago: S. C. Griggs & Co. 1869.

READING AND ELECUTION, THEORETICAL AND PRACTICAL. By Anna T. Randall, Teacher of Reading at the Normal and Training School, Oswego, N. Y. New York: Ivison, Phinney, Blakeman & Co. 1870.

The two books whose titles we have given above, though similar in scope and purpose, are distinct as to matter and method. They both aim to present in a condensed form the principles of Vocal Culture and Expression, together with a sufficient number and variety of examples for practice.

Of the former work it may be said that the selections (with perhaps one or two exceptions), are made in good taste, and are of sufficient number and variety to illustrate all the principles of vocal delivery.

Prof. Wiley's book is however especially commendable for the systematic arrangement of the elementary principles. The subject is presented in such a way as to be readily apprehended and easily retained by the learner. In this respect he has gained much by following the lead of Mandeville, whose treatise on Beading and Oratory, we have always admired for its lucidity and fullness of statement and its scientific method.

Mrs. Randall's book, according to the statement of the authoress in her Preface, was prepared with the view primarily of furnishing "choice selections of proce and poetry for school, parlor, and lyceum readings;" and judged in the light of this purpose we do not hesitate to pronounce it a success. The selections are copious, embracing the widest range of thought and feeling, and calling for every variety of expression; yet among them all there is nothing to offend the most fastidious taste. This, however, is but negative praise. We should not do jus-- tice to our feelings were we to stop here. As a compilation of exercises for elecutionary practice, the work has the merit of having been dictated by a sound judgment, as well as a cultivated and faultless taste. It is especially rich in gems from our best modern authors. The teacher and student of eloquence will find here something choice and recrerche, adapted to invest their studies with fresh interest.

Upon the whole, we can commend both of these works as being well adapted to supply a want felt by many teachers and learners.

MAN IN GENESIS AND IN GEOLOGY; or, the Biblical Account of Man's Creation tested by Scientific Theories of his Origin and Antiquity. By Joseph P. Thompson, D. D., L. L. D. New York: Samuel R. Wells, Fublisher, No. 389 Broadway. 1870.

This book, as its title imports, was written to show that he record in Genesis of man's origin and place in the

system of nature is substantially in accordance with what may be regarded as the ascertained tacts of science as to these subjects. The author assumes that the book o Genesis, as we have it, is in the main from the hands of Moses, and is part of an infallible Divine revelation of "Word of God." As such, when rightly understood, it must always in the last result be found to accord with God's elder record in nature.

The scope and bearing of the work may be gathered from the author's statement in the Preface: "It is neither a book of science nor of theology, but it aims to neither a book of science nor of theology, but it aims to neither a book of science touching the origin and antiquity of man and his place in this mundane system, slde by side with the account of his creation and functions in the book of Genesis, as interpreted by the critical tests of modern physiology; and to suggest certain principles of adjustment between the record of Nature and the record of the Bible, without violence to the spirit of either."

It is difficult to pass judgment upon a controversial work such as this, without becoming involved in questions of a theological character, which, however interesting they may be to the individual inquirer for truth, it is not the provine of this journal to discuss.

We take pleasure, however, in saying that the author has written with ability and in a catholic and liberal spirit. He does not manifest any solicitude as to the results to be apprehended from the progress of antiquarian studies; nor has he apparently any sympathy with that feeling which prompts certain theologians with indecent haste to snatch the sacred writings from the impartial scrutiny of science.] His work, therefore, will be found interesting not merely to those who accord with his opinions, but to those whose investigations have led to opposite conclusions.

The writer takes issue with the theory of the development of superior species from inferior, through the operation of secondary causes. He does not believe, with Huxley, that "man has proceeded from a modification or an improvement of some lower animal—some simpler stock." He claims for him a truly divine origin. Not only as to his higher nature, his spiritual part, is he the immediate creation of God, but even his physical organization, our author contends can not by any show of science be made to appear as the last of a series of organic forms lineally connected.

As to the antiquity of the human race, the author maintains a moderately conservative position. He concedes that the common chronology, which assigns to our race a duration thus far of about six thousand years, is quite out of keeping with the results of archeological investigation. At the same time he would receive with caution the evidence of supposed discoveries, and thinks it is well "to guard against the purely speculative habit of ascribing an immense age to every new discovery in archeology."

As regards the "Woman Question," the book takes decidedly conservative ground, maintaining that woman is disqualified by nature for sustained exertion either of the muscles or the brain, and consequently can never hope to compete with man in an equal race for the prizes which society has to offer. Precluded by the delicacy of her or-

gamisation and the sacred functions of her nature from serving the State in its demands as a civil organisation, she has no natural right to the ballot. While labor is man's primordial necessity, "Woman's right to labor," our author thinks, is a cry of evil omen. To this part of the work the champions of "Woman's Rights" will undoubtedly take exceptions.

The book is tastefully gotten up, and its appearance is highly creditable to the enterprising house from which it issues.

THE NEWSBOY. By Mrs. E. Oakes Smith. Published by The American News Company, New York.

This is a story of absorbing interest. Mrs. Smith goes with her generous heart and judgment down into the great mass of living, suffering, and too often misjudged humanity, and portrays in vivid colors what she sees there. She makes us feel their wants and yearnings for more light and knowledge, and tells us the beautiful story of little Bob, who acts "according to his lights," in a way to shame wiser people.

There is sad truth in his words when he pleads for his class in society. "We's al'sys been despised. Grand women al'ays looks down at us with a sort of snubby look. When I gets into the cars and stages I sees people kind o' look to their pockets. I does'nt mind it. I know what I am, Sir, and I can not be made to feel mean-like. But, Sir, I has friends, a good many friends, Sir. They goes with bare feet, and has rags and no hats; some on 'em aint good, but the contrary: they's weak, Sir, and poor, and cast out, and ignorant; drunkin', some on 'em, and lyin', some on 'em, and some on 'em do worse things; but, Sir, the very worst on 'em has a good spot in the heart, a good spot, Sir, that might help out the rest of their hearts, if any hody would see to 'em a little."

If any one should say that the book belonged too much

to the sensational class of literature, how can they be better answered than by the writer's own words:

"A literature which deals in wild extremes of passion is demoralising to a people; and that which depiots the pure springs of our humanity, its strange warp and woof of good and evil, the good always looks like fair inwoven threads of silver, and may be made healthful and ennobling.

BEECHER'S SERMONS, SECOND SERIES. New York: J. B. Ford & Co.

This volume of twenty-six sermons preached by Henry Ward Beecher, between March and September, 1868, has been published by the enterprising firm of J. B. Ford & Co.,; now Mr. Beecher's publishers. In a brief Proface of the volume, the author says:

"The subjects are various: designed to awaken moral feeling, to develop it into habits and principles, and to cheer and encourage Christians in the trials of a spiritual life. It may be noticed that there runs through the six months' preaching an open and tacit dealing with that uncertain and doubting of mind which belongs so largely to our duty. This is but giving to each need its portion in due season. The present attitude of the scientific mind of the world is not favorable to the Obristian Church or to revealed religion, and there are many physicists who do not stop even there. The denial of the existence of God, either overtly or covertly, and of the soul's spirituality and immortality, is no longer occasional or rare. Although I have not formally discussed the evidences of religion, I have endeavored to fortify Christian faith and courage in regard to those elements on which we have built our lives and all our hopes."

Like all of Mr. Beecher's writings, these sermons satisty a want felt by a large class of persons, and deserve an extensive sale.

THE PUBLISHERS' DEPARTMENT.

Contributors to this Number.

MRS. ELIZABETH OAKES SMITH,
REV. OHARLES H. BRIGHAM,
HENRY WARD BEECHRE,
PHOBE CARY,
REV. J. C. HOLBROOK, D. D.,
ARCHIBALD MACLAREN, of Oxford, Eng.,
E. P. EVANS,
J. E. SNODGRASS,
PROF. HUXLEY,
FRANCES DANA GAGE,
MRS. E. B. GLEASON, M. D.,
DR. A. L. WOOD, and
THE RDITOR.

This Number.—We send this number ent to the world on its mission, with the firm belief that it will be a most welcome visitor to a large circle of friends, old and new.

The story of "Two Wives," which commenced so brilliantly in the January number, promises to increase in interest, and one of its chief beauties is that it is written in a new vein. We trust our readers will find it a pleasant feast to them each month. Mr. Brigham, whose articles in 1839 were so uniformly excellent, give us, in this number, an excellent article on the Care of the Eyes. He has promised us several papers for 1870 on practical topics, which can not but prove valuable.

Mr. Beecher's paper on "Activity," is also full of good things, as are all the articles from his pen.

Phose Cary gives us in her poem, "The Landlord of the Blue Hen," a Temperance argument worth more than many of the lectures we now hear on this subject. Our exchanges will please remember to credit it to THE HERALD OF HEALTH, when they copy it into their own columns.

We are glad once more again to welcome to our columns the Rev. Dr. Holbrook, in his timely paper on the "Present Duty of Temperance Men."

We also ask special attention to the second paper on "Growth and Development," by Archibald Maclaren, of the Oxford University of England, which is a masterly one, being both well written and full of thought. These papers will extend through five numbers, going over the whole philosophy of physical growth.

Dr. Snodgrass gives us good thoughts on "Spurs and Reins." What he says is brief and to the point.

Prof. Evans' paper on "The Prisons of Paris," will also

show to our readers how criminals are treated in France, and perhaps lead to something valuable, as to how they ought to be treated in America.

We call especial attention to the paper entitled "Our Studies in Physiology," by Prof. Huxley. Few physiologists possess such rare faculty in making this subject plain and interesting. We shall continue these articles during the year, and thus bring before our readers monthly, most important instruction on a subject greatly neglected.

In the Editorial Department we are aiming to give a larger and better variety than ever before.

The department devoted to the Treatment of the Sick, we also intend to make full and practicable. We hope to show our readers how they may treat many forms of disease, without stuffing themselves with poisons.

In our department devoted to Book Notices, we shall give a larger and better amount of reading than formerly, making it a more valuable feature.

"Answers to Correspondents" will be full and complete, and explain many a knotty point, as well as give much needed advice and information.

A Winter in Florida.—This book has reached its Third Edition within three months, and the demand still continues. Mrs. Harriet Beecher Stowe, in speaking of the work, thus writes:

"Dear Sir: Allow me to express my thanks for your interesting and tasteful little tribute to our adopted State. Just going southward, I shall exhibit it to the natives in triumph, as evidence that our sunny land is appreciated. Very truly, yours,

H. B. STOWE."

The Picture of Humboldt.—We are new sending out the picture promised to our single subscribers for 1870, who send directly to the publishers \$2. Lest there be a misunderstanding on the part of some, we state distinctly that those who take THE HERALD at club rates will not be entitled to it. The way to secure the picture is to send your money direct to the publishers.

Home Treatment.—Invalids wishing prescriptions for home treatment can have them for Five Dollars. They should send full particulars of their cases. Any person sending five new subscribers to THE HERALD OF HEALTH and Ten Dollars, will, if he does not choose other premiums, be entitled to a prescription for treatment free.

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We have had engraved a very fine Steel Engraving of ALEXANDER VON HUMBOLDT after an Original Oil Painting owned by A. T. Stewart, Esq., which we shall present free to every subscriber to THE HERALD OF HEALTH for 1870, who sends \$3 00. It is of large size for framing, and has been pronounced by competent judges an excellent likeness. It will be sent postpaid by mail.

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The following hints to correspondents should be observed in writing to us:

- Alwars attach name, Post Office, County, and State to your letter.
- Send Money by Check on New York, or by Postoffice Money Order. If this is impossible, inclose Bills and register Letter.
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- REMEMBER, if you are entitled to a Premium, to order it when you send the Club, and inform us how it is to be sent.
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- 6. REMEMBER TO SEND in Clubs early.
- REMEMBER TO LOOK at our Premium List and Book List, and see exactly what we give and have for sale.
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THE TWO WIVES.

BY MRS. BLIZABETH CAKES SMITH.

CHAPTER VIII.

THE PROFESSOR IN DREAM-LAND—SERPENT SYMBOLISM—THE MOSAIC CROSS.

I DO not believe I told my English name, Rodman. Not that I wished to cheat her, but it would not have seemed the thing to reject the name she had given me, and somehow Teomax had a sweet sound from her lips."

Rodman rubbed his shins tenderly, and at length stretched himself upon the green earth, wincing a trifle as he crushed the sharp points of a cactus, in full bloom, and replied,

"It always does seem as if any thing that has just a touch of the Old Sarpent is sweeter to the ear than what is regularly good and wholesome; but go on, I should like to see how you come out."

"I threw myself upon the gorgeous couch but I could not sleep—the splash of the fountain, the soft cooings of the doves, which in this delightful climate scarcely rested for the night, but perched upon the open lattice darted in and out, and dipped their beaks in the fountain, with

tender cooings suggestive of sensuous enjoyment. I arose and walked the chamber; the blossoms which I had noticed I found to be the beautiful espiritu sanctu, whose petals inclose the image of a dove, and which Zalinka had evidently regarded as a sacred symbol.

"While thus restless, and oppressed with many misgivings, I approached the lattice, which was but a loop-hole in the vast structure, and there I plainly heard the voice of Zalinka in earnest adjuration,

"'Go, said a stern voice; bring thy minion: hither!"

"'Swear to me, my father, that he shall not die.'

"'Ye gods! girl, were it not for the sign uponthy shoulder, I would dash thee from yonder battlement into the waves below. Thou wilt bring shame upon our ancient religion.'

"'Never, my father, never. He bears upon his breast a holier sign than mine.'

"'Let him kneel to our gods; let him behold the secrets of our faith, and then, if he is worthy, he shall live.'

- "'You swear, my father?"
- "'I swear."
- "A ticklish position, George. I hope you didn't shame your country or religion by stooping to their mummeries?"
- "You shall hear, Rodman. I turned from the lattice; presently the curtain was lifted, and a small, dark figure approached me, nearly all of whose person was shrouded by masses of black hair reaching to the feet. She raised a diminutive hand and beckoned me to follow. At first I had thought her a child, but the keen, expressive eyes and wrinkled face bespoke maturity of years.

"She led me through several galleries and gorgeous chambers, and then turned to an angle in the wall, which, though distant, commanded a view of the lattice of the room in which I had been placed. Lifting the entrance-curtain, I found myself at once in a vast somber room, apparently set apart for the deeper mysteries of the priesthood, and screened from observation except from other apartments appropriated to a like purpose.

"The dwarf threw herself down in a distant recess at the foot of a lamp and remained motionless. I now saw that Zalinka stood with folded hands and eyes fixed upon a being of such resplendent, manly beauty, that all my preconceived ideas of a handsome manhood vanished before him. He was tall, delicately but . firmly made, and robed in a long, flowing gar-... ment of dazzling whiteness, girded with a belt glittering with gems. A soft, voluptuous mouth, a thin, open nostril, bespoke keenness and sensuousness; but there was not a line that told of weakness or abuse; on the contrary, there was that indescribable expression of power, of subtile self-mastery and fearless vigor which -charmed while they awed. The high narrow forehead was crowned with a silver fillet representing leaves of the feathery palm, while the dark, round eye gleamed from beneath brows arched by a thin black line. Spite of myself I was awed by his presence. I felt my head drop before him, when I saw Zalinka make a slight upward motion of the head, as if to admonish .me, and I assumed an air more in accordance with my natural character."

"That was right and proper; for if there's any thing to make a man look like a poor concarn, it is when he knocks under before one of those would-be-grandee sort of fellows. I never saw one of them that I'd play a second fiddle to. What came next?"

"I looked him, as man meets man, in the face. I saw his fingers move in cabalistic signs

- supposed to have power over will and destiny. Once his eye wavered, but only for a moment, and he turned to Zalinka,
 - "'Is the fane prepared?"
- "'Follow,'" she replied, at the same time clapping her hands once.
- "The dwarf arose from the stone floor, and lighted candles of wax placed in silver sconces; then she crawled, serpent-like, till she reached a huge alcove, before which hung a curtain made of the feathers of the humming-bird, so woven that they seemed like glittering serpents, convolved and radiant with a thousand huse, the tongues of which were formed of rubies, and the eyes glowing with the wicked light of the flarting opal.
- "She held the fabric in her hand, and turned her face inquiringly to Zalinka, who now approached me.
- "'Canst thou die like a man, Teomax?' she demanded."
- "A cheating hussy!" cried Rodman. "Three to one, and asked you that! What next? What said you?"
- "'In what way, beautiful priestess?' I de-
 - "'By the sacerdotal knife."
 - "'And thou?"
 - "' Must die with thee.'
 - "'I am content."
- "The more fool, you! It might do for varmin like them, but for a stout Yankee, with Christian blood in his veins, I tell you, George, it was a knock-under that I didn't think belonged to you. Go on!"
- "Suddenly the priest cast aside his garments, except the girdle of snow-white feathers about the loins. In his hand he bore a knife upraised, and approaching the recess he tore the curtain from the hands of the dwarf and swept it aside. Zalinka knelt with her lovely eyes upraised, but I stood fascinated, awe-struck—horrified. I neither moved nor spoke. I was transfixed as by a spell.
- "The secrets of primeval worship—the symbolism of remote nations—were revealed to my wondering eyes. Was the priest an imposter? Did he stand in cynicism of unbelief and practice upon the credulity of the multitude? Far from it. He stood near to the heart of Nature, fast by the then received oracles, and worshiped according to the light he had received.
- "I beheld a vast, living serpent, rising fold above fold from an altar-place of stone, above which arose a vast cross, and over this reclined this terrible monster. The priest threw his arms aloft, and chanted in a low musical voice,

to which Zalinka's sweet notes ever and anon replied in unison. My presence was disregarded. As the chant proceeded, the serpent rose higher and higher upon the cross—the priest extended his arms in ecstacy—and Zalinka, rising to her feet, stood at the foot of the altar, her hands extended, and her person transfigured to a something grandly beautiful—a living sphynx, an unapproachable virgin; a full, commanding, glorious woman.

"The serpent had ceased his evolutions, and a profound stillness pervaded the apartment. Not a sound, not a buzz of a fly, not a drip of a fountain, not a wing of bird or heave of human breath broke the silence of the sacred precinct. My eyes followed the form of the serpent up to the huge stone which formed the apex of the cross. Here his head rested, and now for the first time I realized clearly that the head of the serpent produces the figure of a triangle, the simplest form that may inclose a space. While I gazed with a new sense of awe, I was able to read the language inscribed upon his skingrand, mystical signs, the first alphabet of earth, and the source whence issued forth a thousand half obliterated traditions, lost to man in the progress of the ages, and superseded by clearer revelations.

"In my deepest heart. I felt their primeval truth, read them and reverenced them as the pure heart reverences the sayings of a child. Then I beheld this triangle to glow with a light, dazzling, clear, and burning; and it was no longer a serpent's head but a glorious symbol of the Infinite. Within the triangle was a circle, and within that a word which it is forbidden man to utter, that holiest of holies of which all the universe is a symbol, and to which the human soul for ever aspires, and yet may never approach, adoring for ever, unfolding to Infinity.

"I threw myself prostrate before this ineffable sign. I poured out the incoherent longings of a soul ready to lay down life that it might more nearly approach the Infinite. I was lost, annihilated in the one thought of eternal space—and spurned the limitations of time and earth. How long I lay prostrate before the serpent I know not—consciousness was gone, and nothing left but an indescribable rapture."

"So after all, you did worship the varmint, George! I don't wonder—I suppose you couldn't help it. To my mind it kind of explains that power of the sarpent that makes creturs cave in at the sight of 'em. Perhaps the critter shows his interiors to 'em in a way like what you saw. Ha, George?"

"I have thought something of the kind may exist. At any rate the animal was more an object of delight than of terror to me as I stood before it, and I surmise that those ancient worshipers possessed the key to some mystical symbolism connected therewith, which is now lost to us. It is only to be hoped that the loss has been supplied by something better."

"What happened next to you, old fellow," continued Rodman. "I begin to feel a trifle peckish, and shouldn't wonder if a wild turkey well broiled on them are coals would go down well. Ist! there goes a pauther, as true as my name's Rodman. She's been down to the river to drink. Them's pesky treacherus critters, and I shouldn't wonder if she should get round behind us for a safe spring. No, she's gone up the glen. Hear her growl over her cubs! Well, well, Natur' has her own way to express a liking in man as well as beast," and Rodman examined the priming of his rifle, and finding it all right, lighted his pipe, and reclined as before.

"I lay half unconscious upon a bed—a soft drip from the fountain rather soothed than awakened the senses, and the most delicious aromas of tropical flowers wrapped the body in a voluptuous state, which was not sleep, nor yet was it waking life. A profound sense of rest, of content, of all negation of the past or desire of the future left me unwilling to raise a hand, to lift a lid, to think, or more than breathe. I was couscious of the presence of some one near me, but who or what I cared not to know.

"'Is he not beautiful, my father?' It was the soft voice of Zalinka. 'Behold, upon his breast the sign!' and I thrilled beneath the delicate touch of her finger, as she laid it upon this natal mark.

"'The great God above all gods hath sealed him,' returned the priest. 'He must serve at the altar; he must remove the stone from the top of the teocalli and appear before the people. He is the incarnate god, with a face fair as the moon, bright as the sun, and terrible in its white majesty. We will yield to him, foretold by priest and augur, and the Aztec shall be great and powerful.'

"'And I, my father?" murmured Zalinka, tenderly.

- "'Thou, girl! What art thou?"
- "'A woman! beware!"
- "'Tut, tut! Do thine office, and be silent.'
- "'Listen! Think you I am like the troop of girls that do thy bidding, and come and go while it pleases thee, and then are cast over the battlements, dead and forgotten? No, by the gods! You creature—our god, our symbo

our index to the eternities, should wrap thee in his folds ere a hair should be singed at the altar on the head of Teomax. Nay, my father (this was said softly), thou knowest that I love thee, but remember my power—remember that I stand marked and sealed beneath the care of the very creature before whom ye worship and tremble with fear.'

"Roused to consciousness, I beheld Zalinka approach the altar; she turned her face toward Her father, and stood with hands folded upon her breast in the shadow of those eternal mysteries of Serpent and Cross. A thousand shadowy images flitted across her grandly beautiful face; now she realized the soft and voluptuous dreams of a Cleopatra, and now the sanctity of a saint-Eve in her virgin grace-Mary in her maternal agony-How shall I describe thee, Zalinka?

"The priest sank before her mysterious loveliness, her typical beauty. The serpent slid from the cross and lay at her feet. The dwarf buried her face in her mass of ebon locks, and shivered from head to foot. Then I arose from the bed and approached her. Awe-struck, indeed filled with a holy and profound reverence for immaculate womanhood, I held out my hands to her. I did not speak, I felt my very being call her to myself. I felt that she would henceforth draw all the elements of my life into hers.

"Slowly Zalinka turned her glorious eyes upon Slowly she recalled the fragments of her existence which were about to be dissolved, and Then she stepped bent her face toward me. over, and with her tender feet pressed the folds of the serpent, and came to my arms."

CHAPTER IX.

A PLEASANT MOTHER-IN-LAW.

THE Professor resumed his pencil almost in-L stantly, but his eyes had a weird, far-off look that did not escape the keen perceptions of Cora, who put her cheek to his and did not speak.

"Dear heart!" murmured her husband, "I cause you grief when I would not do so. Be patient, child."

At this moment entered Mrs. Pyncham, whose jealous mind turned the aspect of the two into a commonplace quarrel, as vulgar people will.

"My poor child! how miserable you are!" she cried, laying her mittened hand on Cora's shoulder and with the other pulling at the strings of her bonnet, which had got into a tangle, and she jerked and pulled, at the risk of | the ear, but the mill-men had ceased their toil,

dislocating her neck. Finally she dragged the whole thing away through a place so small that off came her cap off came her "front," leaving her short-cropped hair sticking out in all directions.

"O mother! what a fright you are!" exclaimed Cora, coming to the rescue. "I declare if I live to be old, I'll never put a false thing on me; I'll wear all my wrinkles and gray hair, and if I can not be handsome, nobody shall see me make a fool of myself."

Mrs. Pyncham groaned audibly. "To have my own child turn against me! to be flouted and abused by my own flesh! Oh dear, I have nourished and brought up children (one only), and they have rebelled against me (that one

The Professor, unable to cope with such a character, beat a retreat; and in the meanwhile Cora adjusted the "front," and cap, and disentangled the ribbon, all the time giving vent to "oh dears!" "goodness graciouses!" and other ejaculations by which women relieve their mental disturbances, just as men do by more fervid expletives.

"Where's Sister Electa?" at length demanded Mrs. Pyncham.

"She is here!" responded the clear voice of the maiden from the eccess of a window, and she now came forth and gave her hand to the widow, who mittened it and then began to fumble in a deep bag for some article, glaring all the time in the face of Electa, and working her mouth into unhandsome shapes as one object after another passed under the scrutiny of her fingers and was rejected. At length she produced the two parts of a piece of paper which had originally been a note, and handed them to Sister Electa, saying, "Paul Stearns asked me to give it you, as he saw me on my way here. A bold, forward young man is that Paul."

The note was in a cramped, stiff hand, and said, "Will Electa, the Shaker, come to the poor house of John Stearns? He is sick, perhaps dying."

"I would not do any such thing," said Cora, to whom Electa handed the note. He is a low, bad man; and does not speak to any body when he can help it. Goodness! I do not see what he wants of you."

But Sister Electa tied on her plain bonnet, and walked down by the water side in quest of the house of John Stearns. It was a raw, chilly twilight, and the mist rising from the river hung heavily in the air; the plash of the water over the mill-wheels came soothingly to and the lumber scattered along and the rafts of timber slowly undulating in the water gave to the aspect of the place a melancholy, deserted appearance, at once depressing and chill. Ever and anon a gust of wind sweeping across the river swayed the branches of the pine trees, and converted their low whisperings into a rush of sound as if an invisible troop scaled the hill-side and hurried away into the gathering gloom. The melancholy plaint of the whippoorwill deepened rather than relieved the air of solitude, which grew upon the sense of the maiden as she moved onward; and now and then the loon, rising from some marshy covert, gave out a low, quivering cry.

Before we proceed to the interview which we have indicated, it will be necessary to retrace our steps a brief space in the progress of our story.

CHAPTER X.

JOHN STEARMS—A MOODY HOUSEHOLD—A
TENDER WIFE.

ANY years before the commencement of our narrative, John Stearns and his mother, who was well-stricken in years, and by many believed to be a little "loony," had come to the town of Brunswick, and settled themselves in the small old house under the hill, which had been previously occupied by one of the workmon of the saw-mills at the Androscoggin Falls. It was thought he was known to the former occupant, who had emigrated to parts unknown, and left his house and good word in behalf of Stearns to the proprietor of the mills. Be that as it may, he at once commenced his toil in the establishment, and his old mother took up the duties of housekeeper. She was tacitum and cross, rarely having any thing to do with their few neighbors, never attending any place of public worship, never appearing in any dress other than a long brown serge, tied in loose folds about the waist, and a strip of the same material laid upon her gray hair, and knotted beneath the chin. This dress was scrupulously neat, and not unbecoming to the strong, sharply defined face, with its pair of gray, penetrating eyes, which always looked out from beneath the contracted brows with an intense expression, indicating some mental pain or anxiety.

Both she and her son were more intelligent than their class are generally expected to be, and it was observed that they had a few old choice books, and some articles of household use, and ornaments rarely found in the dwell-

ings of the mill-men. It was generally supposed they had emigrated from Canada, a confiveniently large area to leave that indefiniteness of location so often coveted by those who flee from misfortune no less than by those who escape detection from crime. Mrs. Stearns, or "Granny," as she got to be called, seemed to have concentered all the affections of her nature, no less than all the thoughts of her mind, upos her companion, a son, who, despite his sullen character, never failed in duty and respect to the author of his being.

Moody, religious even to fanaticism, he was always tender, respectful, and forbearing to her. He would lighten her household toil by a thousand little helps in the way of supplying the fires, bringing water, and even arranging the furniture in a sly, awkward manner "to save her poor back," as he would say, never her old back; and she would note these little attentions with a quick, grateful glance, a quiver of the lip, and furtive grasps of the folds of her dress, and a "bless you, my son," uttered in a whisper.

Sometimes she might have been seen in the secrecy of her own rude apartment, after having bolted the door, to take from her pocket a small silver box, which she held in her hands, turning it from side to side, rubbing it between her palms, patting it slowly, almost tenderly, her gray eyes dilating with a look of pain, and her whole frame quivering with agony. Then she would open the box and lift therefrom a long tress of golden brown hair, soft and wavy, a smile flitting across her lips as at a brief, pleasant memory, when all at once she would seize upon a slight knot, or tangle, which even affection had never smoothed away. This knot she would gaze upon with a sort of horror, her face blanched, her brow writhed, and even her form would wring and sway with suppressed agony.

"O Lillie, Lillie! O John! poor children! Ah! how pretty she was! and how good! and how true! Dead, dead! and John to live, and I to live, and know what we know!" and she would sink down upon the floor and draw the heavy folds of her dress around her head to stifle the sobs and groans that would not be appeased.

"Ah! the poor baby!" this with a wild glance around the room. Then she would lift herself up, bury the lock of hair in the silver box, consign this to the deep chintz pocket which swung beneath her girdle, wash the hard, riven face, comb back the heavy white locks, tie the dark fold of cloth beneath her chin, and

go forth with an unearthly calm, and white as the dead are white.

Thus saveral years passed away, unvarying days of toil, not outwardly turbulent if inwardly gloomy. But at length a change was affected by one of those designing women who so often take the destinies of a man into their own keeping, and in a way best known to themselves. Not far from the poor dwelling lived a man by the name of Farmer, with a small garden and field, in which he raised corn and some grass for a single cow, ekeing out a scanty hving for himself and two daughters by intervals of labor at the saw-mills. The youngest of these girls was a tall, sallow-faced girl, with pale blue eyes and yellow hair, and a chronic sniff at the nose. She began to drop in at the house of John Stearns about the time of his nightly devotions, to listen, as she said, to his "wonderful gift of prayer." At these times she would seem to be quite carried away with religious fervor, and would expound Scripture with him in a most humble and inquiring manner.

Mrs. Stearns gave her but a chilly welcome on these occasions, and eyed her with little favor, if not with absolute dislike; but Janet Farmer was not to be baffled, and strove to make herself acceptable by aiding in the housework of the small family, and now and then the gift of a well-concocted pie, a plate of pickles or "pandowdy," and even a pair of long woolen stockings for the feet of John. So well did she embrace her opportunities that it soon became evident the latter would place her at the head of his household, which ere long was done.

No sooner was Janet fully installed than she began to show the "cloven foot," in the shape of a vile, malignant temper, a sharp tongue, and perpetual fault-finding. Mrs. Stearns palpably declined, mentally, under the jurisdiction of Janet. She grew more taciturn and moody, even losing, it would seem, a portion of that devotion to her son which had hitherto lent an interest if not a grace to her character. Not so with John; he bent his back manfully to the new burden, only redoubling his prayers and augmenting his habits of toil. One only charge, which the vindictive Janet brought against him, seemed in the least to disturb that stolid equanimity which marked his demeanor. She constantly accused him of spending money in haunts repugnant alike to his principles and taste.

"If you do not spend it in the dram-shop, where does your money go? I can count every cent you arn, and not quite two-thirds of it ever comes into this house. Where does it go?"

"Woman, have you not food and garments suitable to our condition? Have you not enough?"

"That's not the question, man, if you call me woman. How do you spend the rest of it?"

"That is my concern, not yours. Go to! I will hear no more!" and the man would bend upon her a brow of such stern menace that even Janet dare proceed no further.

On one of these altercations, after John left the house, Janet turned her wrath upon the mother, saying, "That son of your's got the very Old Serpent in him, in spite of all his prayin'. I'm jealousin' he'd wring my neck as he'd wring an old hen's, if he got right down mad, I do."

To this speech Mrs. Stearns, who had at first looked at her with anger, suddenly gave way to a wild fit of laughtense uncontrollable that tears were in her eyes; and this was followed by one hysteric scream, at which she pressed her hands tightly over her mouth and hurried to her room, where she bolted the door and in solitude gained the mastery of her feelings.

"Well, I never!" ejaculated Janet; "Mother and son are just as sharp as steel, and like nobody else this side of fire and brimstone. I wish I may be blessed if I don't wish my cake was dough. I shall never see hide nor hair of his arnin's. Get out—scat!" This to the cat which had settled herself at her feet. "It's no use to cry for spilt milk. I may as well go and milk the critter, and make the best of what can't be oured. He's got an awful eye! 'twould go through a ten-inch plank, lettin' alone the heart of a timersome female!"

So Janet, finding she was apt to have the worst of it in these conjugal blandishments, learned gradually to avoid them, and contented herself with these indirect attacks and modes of inflicting punishment, which a mean-minded man or woman know so well how to use.

One child only was the result of this alliance, a hardy, handsome boy, who seemed to have taken what was best, however hidden, for there is always, in all characters, a secret spot where some roses, and perhaps lilies, lie choked by rank weeds, lacking only the right culture and light to bring them to perfection; so these secret graces and wholesome seeds, hidden, it is to be hoped, in either parent, were reproduced in the child, to the exclusion of the more poisonous or less beautiful; and Paul Stearns grew to be the sunshine of the household. He was bold, resolute, willful, with a bright word and a ready smile, to disarm its moodiness; and in him John had at length found a certain degree of content. Honest of heart and simple of purpose, he found no companionship with Janet, while the boy grew more and more into his heart.

"Ah me!" honest John would exclaim, "I'm not clear in my mind whether I am not guilty of sin in living under the roof with this woman, who brings out all that is bad in me and never the good. But they are not all alike, these woman. I like to think they are not. It comforts me."

CHAPTER XI.

KEEPING SCORE—A CRAFTY WOMAN—THE LAST SCORE.

WONDER if every body in this world could be settled in just the place he is best able to fill, if this planet of ours would revolve as it now does, and hold its place in the coliptic?

In the meanwhile, John Stearns entered, one night, his cheerless dwelling, and ate his supper in silence.

"What do you there, Mother?" he saked, turning sharply to the old woman, who sat making long lines with the tongs in the ashes of the hearth.

"She is always doing it, and keeps the ashes scattered about. Have done, Granny," and Janet wrenched the tongs from her hand.

"Where's Paul?" the man again demanded, looking about the room.

"He's off sparking, I guess. Let alone the tongs, Granny," for the old woman was reaching out her bony wrist and hand corded with veins to gain possession of them. John now took down a large Bible covered with leather, and read verse after verse, with his compressed lips and knitted brow bent over the sacred volume; while his wife sat with her chair tilted back on two legs against the wall, her lank ankles dangling below her short petticoats, and her knitting-needles clicking as only the needles of a shrew can click.

"John," suddenly called out the old woman, "do you remember Lillie Henry? I was just thinking of her."

The man's face contracted sharply, and he rose up and went to his bed-room without speaking.

"Where is Lillie Henry?" asked Mrs.

"What put that name into your head?"

"Why, you yourself. You just asked John if he remembered her?"

"Did I?" this with a half cunning laugh, and partly the laugh of doting old age.

Both of the women sat long in silence, with no sound save the click, click of the knitting-needles, and now and then a coal as it dropped from the smouldering wood. At length the clder of the two stealthily got possession of the tongs, and commenced to make these long scores in the askes before spoken of, while the wife eyed her with a scowl, but did not motest her. A family in which some painful secret is buried rarely thrives well, and hence, though John Stearns worked diligently and well, the household was poor, and its inmates as we have shown, moody.

The old mother was cursed with a perpetual sleeplessness. She seemed always awake, casting around her troubled, furtive glances, and rarely speaking. Accustomed to her mood Mrs. Stearns was compelled by the mere force of inertion, to leave the poor creature to her own method of sitting up half the night, scoring the ashes with the tongs—scraping them into heaps, and then laying coal after coal upon the top, and converting these heaps into intense pyramids of heat.

"What do you there all the time, Granny, scraping, scraping in the coals, till you make my hair stand on end?"

"I score down my troubles, and then I bury them up," this with a sort of laugh that was frightfully hyena-like.

"There now, Granny, tell me all about your troubles, can't you? You'd feel better to talk them over," said the other, in a wheedling way.

Granny's lips fell with a palsy kind of quiver, and she turned her dim eyes on the face of the speaker, but she answered nothing for awhile. At length she said:

"Lillie was not a bad girl, I know she was'nt, Did you never hear about that brother of hern, who—you know what he did?"

By this time the woman had tilted her chair to the floor and came close to the side of the feeble old creature, whose incoherent tongue had become so suddenly loosed.

"I've heard about that brother," she said—this was false, for that story, whatever it might have been, never before had been named in her presence by any one. The old woman had removed the tongs in her silence.

"It was an awful story, Granny. What became of the sister, Lillie?"

"Lillie! oh yes, Lillie. She was kind of like Ruth in the Bible; but she made John a changed man, and I hate her for it."

"How did she do it, Granny? Did John 'marry her?"

"Get you to bed, and hold your tongue," cried the old woman. "You are John's wife, and Paul's mother, or I could kill you as easy as I could kill a make."

"Oh Granny, you are worse to-night; you do not mean what you say. Your hands are as cold as ice, Granny, and your face as white as a cloth. What alls you?"

"I've seen her," she whispered. "Hark! surely somebody come into the room, and is standing behind me," and she looked steathfly over her shoulder.

"Whist, Granny; it's nothing! Where did Lillie die?"

"She didn't die. See who stands behind me. Somebody whispered 'ashes to ashes." I feel a cold breath upon my neck. Who in it?"

"It's because you play with the ashes so much. Come to bed, now, Granny," and Janet shuddered.

The head fell forward upon the breast, the features worked fearfully—she started half up, crying, "John, John! she has come?" and then fell backward, dead.

John appeared, pale and haggard, from an inner room, and lifted the poor stiffening limbs, with the white hairs falling over the white face, and laid them on the bed, and then the sullen man burst into a fided of tears, and he marmured, "Thank God! my poor mother, you will feel your great burden no more?"

And so the palsied hand ceased to score its burden of sorrows in the chimney corner, and was gone where it has been said the Recording Angel sometimes blots out with a tear the errors of youth, or the wrongs that grow out of a too impassioned heart.

Then came the voice of prayer under the low roof as the minister wreetled in behalf of the living, and more than hinted at the faults of the dead; whereat Janet rolled her eyes furtively under her black bonnet, both in search of sympathy and as expressive of the trials she had endured. The sturdy mill-men, dressed reverently in their Sunday clothes, bent their broad shoulders to the burden of the dead, and bore it forth under the green pines, where the snows of winter spread a white sheet softly above her, and the cricket and grasshopper in summer-time sang lowly, and the ground sparrow and brown thrush trimmed their nests in the little hollows worn by the rain in the green Whence she had come was no more known than whither she went, but all her griefs were remembered, and her ashes cared for by Him who does not permit a sparrow to fall to the ground without his notice.

John Steams resumed his toil at the mills, but it was observed that his manner was more severe and his face more pallid, while he prayed and exhorted with redoubled fervor.

One day, while employed at his usual labor, a thought or memory seemed to strike upon his mind with the force of a blow, for he saddenly called a hand to take his place at the wheel and hurried home with a flushed and eager face. It was so unusual for him to return at this hour of the day, that he took his wife Janet quite by surprise, tumbling over the goer effects of his mother, searching into drawers, pulling down from the shelves, trying on gloves, and turning pockets inside out, all with a fierce and hurried curiosity.

The window was open, and the man stood at a little distance eyeing these proceedings with an expression of scorn and contempt such as they well merited. At length she took the silver box, of which we have before spoken, from the pocket, and held the lock of hair up to the light where it quivered like threads of gold.

A sharp pang must have shot through his heart, for the bleed rushed to his face, and he sprang forward and with a stride entered by the low window. He seized the hand of the woman, and held it so tight that the fingers lost their grasp, and the hair fell upon the floor. While he stooped to pick it up, Janet was about to stip the box into her becom, but he observed the movement—

"Give it here, woman."

"Lud! take it. The gift of some light weach or other, I'll be bound."

The pale look of agony upon his face might have softened any heart. So intense was it, that he staggered against the wall in silence.

"Oh, you needn't look that way," cried Janet;
"I only hope she served you right. Pretty
keepsake for a man to have in the house to catawaul over, and your lawful wife never to get
a kind word out of your mouth. What's the
good of the law when a woman has no more
good of her husband than I have?"

John, contrary to what might have been expected, did not reply in anger; he stepped toward her and laid his hand upon her shoulder. She, mistaking the movement, drew herself back with a deflant attitude, and her eyes glared like those of an infuriated tiger.

"Strike me if you dare, John Stearns," she shrieked, rather than spoke.

"Janet, you have not a good husband in me. God knows I have begged and prayed to be otherwise than I am, but all my prayers confirm me in my—my—" he did not say hatred of you, nor repugnance, though he meant it—and so he left the sentence unfinished.

This conversation on his part, so far from softening Janet, served only to confirm her mean spirit of discontent and aggression.

"I'll have the law of you-I will, John Stearms. You can't arouse me of breaking the seventh commandment, you can't; nor of not getting your meals, nor of not mendin' your closs, nor of not washin' of 'm --- yes, and ironin' 'em, too; and keepin' your house, and bein' a willin' wife in all things, and a slave, and a drudge; I'se borne you a child, and took care on him, and he's a honor to us, and not a runagate to shame us; and for all this I'm no more to you than a stick or a stone, or a cat, or a dorg." Here, overcome by the enumeration of her grievances, she began to: snuffle and pull at the sides of her apron, and even to sidle up to John in a smeaking, mauddin way, as if ready to be on terms if he would.

John Steams rubbed the back of his hand over his great brown forehead, and neither repelled nor invited the movement. All that the woman had enumerated as claims upon him were true and not to be gained, and yet his inner sense revolted at the idea of there being any wifely claim in them. Janet had approached so as to lean against him, sniffling and hanging her head; he took her very gently by the shoulders and placed her in a chair, where she sat like a bundle of rags, half fallen in a heap, her feet sticking out of the bundle. He resumed:

"Janet, you are a faithful woman to me"—
he did not say wife—"and you do the best your
nature admits—(" you may well say that," she
grouned suiffingly)—I sm.not a good husband
to you; I do not understand these things—perhaps the world does not. This I can say, Janet,
I abhor myself; I repeat in dust and ashes; I
call to the rocks to cover me, for when I would
do good, evil is present with me."

"You're a hypocrite, and a heathen, an Amerite, and Gittite, and not fit to call a decent woman wife," cried Janet, springing to her feet.

"I am all that is bad in the sight of God, but not in the sight of man," he replied, meekly; and then for the first time seeming to notice the bex and the look of hair, which he held grasped in his hand, his ire broke forth:

"How dared you touch my mother's garments? How dared you pry into secrets that do not concern you? Look here, look here;" and he gathered in his arms all that lay scattered before him, and going to the great kitchen fire-place, where the wood burned brightly under

a large iron pot, he swung the latter from the hook and heaped the articles into the flames, crowding them down with his heavy boot.

"Well! I declare, if there ain't a sin and a shame, a waste and a wantonness, I never see it! Good cloes, fit for any body to wear, burnt to diaders, and shame and contempt cast upon his own, old mother; as if her belongings was a pestilence, and a famine, and a sword, and destruction; and she'd a died of the pest and small-pox, lettin' alone the plague and spotted fewer."

The men stood over the blaze watching it till all was consumed, and taking no heed to Janet, who had seized a broom, and half stoeping as she worked, dug away at the boards of the floor as if nothing less than working her way into the cellar would ever content her. Seeing John walk out moodily and take his way to the mill, she stood grasping the broom and shooting her head out after him, and muttered to herself: "He's the very divil, I do believe, sent to torment and tempt me. If he arn't that, he's as bandit, and a pirate, and a buccaneer; and some day the law'll be down upon him, and I'll be left without a cent—a relic, and nothin' to buy my meurain' gownd with."

At this climax of misery she resumed the digging process with the broom, to get into the cellar, saiffed, and broke out eroning an old hymu, beginning:

"Why should the children of a king Go mourning all their days," etc.

TRANSPLANTING MEN.—If the oak, in its germ, has been set in a flower-pot you will not think of keeping it there. Yet the process of transplanting is ever a delicate one-it may be fatal. A shock is suffered, the courses of abserption, secretion, assimilation are interrupted, growth for a time is suspended, and the new soil may prove less genial than the old. The difficulties and trials which often lead men-especially professional men-to think of some change of location, are often but a needful test, a hardening and maturing process, a preparation for higher usefulness. Happy he who, amid all such trials, judges with the first Napoleon, that "the word impossible belongs only to a fool's vocabulary," and so finds his shoulders broadening with the burdens laid upon them. Yet such a result is the issue only of a holy boldness, a courage born of the Spirit. It is attained only by that faith which, amid all beating tempests and swelling waves, is an anchor to the soul, sure and steadfast .- Rev. Dr. Smith.

Notes of European Travel.

BY MRS. E. EVANS.

WAS struck at the outset of my tour with the great care taken to avoid accidents in railway traveling. In England there is an elevated foot-bridge built over the road at all crowded stations, which is accessible at both ends by a flight of stairs, and over which it is not merely a matter of choice but of necessity to pass, as officials stand ready to prevent any person not an employé from crossing the road on the level of the track. The first time I noticed this convenient arrangement I thought of the station at Lynn, Mass., where scarcely a year passes without the loss of more than one life, through unhindered attempts to find a safe way amid the bewildering arrivals and departures of trains.

I spent some time in a small village in Switzerland, where the railway station was a little beyond the town. I often walked over in time for the railway train, because it was some amusement to see the few travelers come and go, and then those rails seemed to me in my loneliness a connecting link between that foreign land and my home in America. There was only one road leading from the village to the station, and this road (contrary to the usual custom which places the railway either above or below the more primitive thoroughfare), crossed the track and continued into the country.

Probably there were not a dozen vehicles passing that point in a day, and the few trains were almost always on time, and could be seen approaching for a long distance on either hand, nevertheless, the road was guarded by gates which were closed as soon as the whistle was heard at the stations about a mile beyond, on each side. Even the two puppies, which relieved by their gambols the monotonous existence of the station master, were safely housed before the cloud of steam above the distant curve announced the coming train; though I heard before leaving that one of them had been run over by the cars, a catastrophe which probably led to redoubled vigilance on the part of the authorities.

I often think of the methodical care with which the duties of that little station were fulfilled in contrast to the recklessness exhibited in the neighborhood of my present home. The railroad here crosses one of the principal streets of the town at the foot of a long and steep hill, which is the favorite resort for young people in winter for coasting purposes. Starting at the top, the adventurous youngsters dash down the hill gaining momentum as they go, and they are never better pleased then when they can cross the track without stopping, and after reaching the bottom of the valley go half way up the height beyond. There are no gates across the road at this dangerous point, no flagman to signal a crossing train, and even the engine-ball is not rung in passing the foot of the street, although it is a thoroughfare for carriages, and one side the view of the track is completely shut in by houses and projecting banks. One man was killed there a short time ago, and if it were not for the Providence, that seems to wait upon small boys, many of them would perish every year; though in the matter of railroads and other equally decisive agencies, it would seem better not to trust too strongly te miracles.

But this is a free country, and we have not only a right to be smashed up by hundreds, through the carelessness of an *employé*, but also to smash ourselves individually, if we choose to stand in the way of a passing train.

On the Continent, not only is safety of life and limb insured by timely precantions, but anxiety of mind, that insidious destroyer of health and comfort, is in such matters prevented by the methodical disposal of travelers, however great their numbers may be.

In the first place, the ticket offices are appreached by a railed passage, admitting only one at a time, and applicants must here stand strictly upon the order of their going. This preliminary being settled, and baggage having been deposited with the proper officials, the traveler can rest in peace in the waiting-room of whichever class his ticket entitles him to, until his particular train is announced, and the previously fastened doors are thrown open for his egress upon the platform of the station. Restaurants, supplied with a great variety of good food, both hot and cold, are always attached to the waiting-rooms, and time is allowed for the comfortable eating of a meal, whenever a train is announced to stop for that purpose.

But the cars themselves are, in some respects, not so convenient as ours. Each carriage accommodates from eight to ten persons, and as it is seldom that one party of travelers can occupy all the seats, there is really less privacy in this confined space than in our longer cars. Besides the seats are at opposite sides, so that their occupants must stare each other in the face whether they will or not, and half the number must ride backward, which to many persons is very uncomfortable.

There are no sleeping cars, no water tanks, no closets on these trains, and thus a long journey is attended with some inconveniences which are obviated by the American plan. Once, on a German railroad, I traveled in a car having a small saloon attached, and I am not likely to forget the exception on account of an amusing incident which took place in consequence of the unusual construction of the apartment, one of the seats being interrupted for a short space to afford a passage through a sliding panel in the wall.

After the carriage was comfortably full a great burly man entered, to the surprise of all of us, who wondered how he intended to dispose of himself. He stood still in the vacant space for a few moments, then deliberately draw aside the skirts of his coat and stooped, as we supposed, to rest upon the arm of the nearest seat until there should be a vacancy. But instead of this, he sat down fair and square upon the floor, with, of course, the greater heaviness in his fall, because (being near-sighted) he had not noticed the cessation of the seats, and therefore had not anticipated so low a descent. It was one of the most comical scenes I ever witnessed! We all laughed, we could not help it, and the victim joined in quite heartily. But one young woman, a bride, on her wedding tour of a few miles with her husband, was so impressed that she gave herself up to an intensity of fun that I have never seen equaled. Such peals of laughter, so hearty and long-continued, and repressed for a time only to break out again with redoubled violence, would have driven most women into hysterics; and while enjoying the spectacle of such genuine mirth, I could not help admiring and almost envying the strength of nerve that would allow of such strong emotion without weariness or painful reaction. Her perfect simplicity of character, too, was an agreeable study in a world of artificial manners. The fear of annoying the hero of the incident never seemed to enter her head, and indeed, her enjoyment was so evidently void of any element of ridicule, that a much more sensitive person, than that big, good-natured gentleman, could have found no cause of resentment in its demonstration.

In Switzerland there are in use a few long cars for second and third-class passengers, with seats arranged in imitation of ours, but they are so plain in workmanship and so simply furnished as to offer no points of resemblance except in the general construction. Indeed, that agreeable combination of dark wood-work, rich upholstery, and stained glass, which decorate our most tasteful cars, are seldom met with in Europe, nor is such lavish expenditure in public conveyances necessary anywhere, though it would seem to be more appropriate abroad, where a dangerous and costly "smash up" is not an every-day occurrence as with us.

The seats of first-class cars are luxuriously stuffed and have arms and head-rests, but they are generally covered with plain drab cloth, and lay little claim to beauty of adornment. The second-class seats are not divided, and are covered generally with black haircloth; they are really more comfortable than the first-class, because when the carriage is not full there is a chance to lie down, whereas in the others one is obliged to sleep sitting upright. These carriages are warmed by tin cases covered with carpeting and filled with hot water. The third-class have bare wooden seats, the windows are not curtained and they contain no warming apparatus.

The great drawback to comfort everywhere is the prevalence of tobacco-smoke. It is true that there are carriages on every train where smoking is forbidden, as a printed notice on the door announces, but it is often impossible to find room in these for all who would fain escape being choked and sickened by the acrid fumes. On some railroads there are carriages especially for women, but these are occupied largely by mothers with young children, and sometimes, particularly at night, even tobacco-smoke is a lesser evil than an unventilated apartment filled with crying babies.

Besides, even these privileged places are sometimes separated by only a slight partition from the carriages where smoking is allowed, so that the fumes steal through the thin boards or are blown in at the open windows. Nor are first-class carriages exempt from the nuisance, as many a selfish traveler takes advantage of the absence of the guard to light his cigar, compromising the matter for his fellow passengers by putting his head partly out of the window, or he enjoys his weed more openly, after asking the permission which he knows they will be too polite to withhold. I thought before going abroad that I had seen a good deal of smoking and had supposed that I hated tobacco, but

after beginning my travels on the Continent, I concluded that my opportunities for observation in the matter had been very limited, while my dislike had been a very feeble emotion, indeed, compared with my later feelings.

The division of the trains into so many small compartments prevents one annoyance, which is a disagresable feature of American railway travel. I mean the legion of peddless of books, papers, candies, and fruit, who follow each other in quick succession, and disturb passengers through both waking and eleeping hours. There are book-stalls containing good selections in all large stations, and refreshment-rooms also, and when the train halts only for a few moments, waiters rush out with trays filled with glasses of foaming beer or cool wine for the benefit of thirsty travelers.

I was once a passenger on an excursion train between Zurich and Lucerne. The car, a long one, like those in this country, was filled with cheerful, well-dressed people of the middle class. Among them was a party of young men, evidently bent upon a day of pleasure. One of them carried slung across his shoulder, as other travelers carried their knapsacks and opera glasses, a miniature wine-barrel, holding about three gallons, made of polished wood with an ornamental silver faucet. Soon after leaving the station he began to draw upon its supplies, and greatly amused the whole company by extracting alternate glasses of red and white wine which he handed about very freely to all who would accept a draught, while he swallowed a glassful himself for every one that he gave to others. I was then new to the customs of the country and looked on with amazement, expecting every moment to see this man, if not all the others, pass the bounds of harmless frolic into the excesses of a drunken revel. But no such result followed, and though he was in sight all day, and was as generous with his wine barrel upon the steamer as he had been on the cars, there was no perceptible effect other than a perhaps slight increase of his natural jollity.

The custom of locking the carriages, which seems to us so strange, is really a precaution for safety, which is called for by their construction. The doors being in the middle, like taose of an ordinary carriage, it would be very easy, through the rapid and often unequal motion of the train, fer people and things to fall out if the doors were not secure. But in other respects the practice is sometimes productive of disagreeable and even dangerous encounters. I have heard of several cases where rudeness, almost amounting to insult, was offered to unprotected women,

which was stopped only by arrival at a station and an appeal to the guard by the offended party. Occasionally, too, a maniac or other desperate person is allowed to travel without sufficient restraint, and the lives of fellow passengers are thereby put in jeopardy. guard is usually to be seen only while the train is standing at a station, there is no way of summening him at other times, and no communication by means of a bell-rope between the cars and the engine, as with us. I knew of a recent instance in Germany, where a young lady traveled some distance slope in the same carriage with a strange man, who, after a long silence, began to unburden himself of various shawls and other wraps, then took off his hat, removed a wig of dark hair and replaced it by a yellow one, and added a false beard of the same onlor, remarking to the astonished girl that if she said a word on the subject to the guard or to any other person while they remained together, he would be the death of her. guard looked in at the next station, but the man had wrapped himself again in his shawl and appeared to be sleeping, and the girl, though terribly frightened, thought it better to make no disturbance. Soon afterward the stranger left the car without taking any further notice of his companion, and who he was, whether a criminal escaping from justice or a detective on the track of a criminal, remained a mystery to

One of the pleasantest routes of travel anywhere in Europe is the Rhine. The steamers are small, and the favorite place of resort is, of course, the deck, which is divided in the center by the engine-house, the part forward being allotted to the third-class passengers, while the after part is occupied by all persons holding first and second-class railway tickets. This end of the deck is covered with an awning and furnished with comfortable seats along the sides, and camp chairs for those who wish to vary The dinner-table is spread on their position. deck, and tourists est of the fish of the river upon which they are sailing, and drink of the fruit of the vines which grow upon the hills they are Eating becomes an esthetic enjoypassing. ment when performed smid such surroundings, and I shall never forget the pleasure of my dinner on the Rhine. We sat down to the table as the boat was nearing the famous Lurlei, and every few moments some one would leave his seat to have a nearer view of a spot that charmed him, while several times all but the old travelers rose en masse to follow some enthusiastic Rhinelander to the other side of the boat to

see a ruined castle and hear its former history. To add to the grandeur of the scenery, a heavy cloud rolled suddenly over the heavens, and the storm came down in a shower of rain, while the lightning played around us, and the thunder echoed grandly from the towering rocks of the neighboring abore.

One peculiar charm in traveling abroad, and one reason, no doubt, why a foreign tour refreshes Americans so much is, that all the people one meets seem cheerful, and what the Irish so expressively call "easy-going." No one seems to be in a hurry, nor to regard the journey as a necessary evil, to be enduxed in view of the point to be reached. Man appear to be free from the anxisties of business and women from domestic cares, and though there must be secret sorrow in many a life it is repressed on such occasions, and a general desire seems to prevail to enjoy as much as possible the natural scenery and the pleasures of society.

I was pleased everywhere on the Continent by the friendly manner of the inhabitants, which were as far removed from intrusiveness as from excessive reserve. In their cardial greeting to strangers and their residiness to converse with whoever happens to be their neighbor in a public conveyance or at a public table, there is evidently only a recognition of a common humanity and of the duty to make time pass as agreeably as possible under all circumstances, without a thought of meddling in the affairs of the individual.

The English, as a rule, do not respond very cordially to such overtures, and are consequently not much liked as travelers. Americans please much better by the great simplicity and freedom of their manners, but in their conversation they do not always preserve that nice distinction between topics of general and private interest which constitutes the charm of foreign sociality. No one, in that part of the world, ever enters or leaves a diningruom, a railway car, or any other place where he is for a time in the company of others, without bowing and uttering a few words of comprehensive greeting and farewell. In many hotels in Germany the host enters the dining-hall, just before the covers are removed, and bowing to his guests, wishes them "a good appetite," and the same expression is in general use from each member of the family to all the others at the home table.

In passing through some small villages I have been greeted by every one I met, but this custom has become obsolete in large towns where there is a great flow of travel. One day

in Florence I sneezed in the street, and an old Italian passing by exclaimed, "God bless you!" in his own tongue, and as though I had been a familiar acquaintance. It is certainly pleasant for a lonely traveler to be met everywhere as though he were an old friend, and to read kindness and good will in the smiles and aods of strangers, even when he can not understand a word of their language.

OUT-DOOR PROFESSIONS FOR WOMEN.-And then there are out-door professions connected with a home which are as suitable for women as for men. The business of raising fruits and flowers is especially suited to woman. as also the management of the dairy; and for these the other sex are regularly instructed in endowed agricultural schools, while women can not share these advantages. The arts that ornament a home, such as drawing, painting, sculpture, and landscape gardening, are peculiarly appropriate for women as professions by which to secure an independence. Yet but a few have the opportunities which are abundantly given to the other sex.

These are all employments suited to woman, and such as would not take her from the peaceful retreat of a home of her own, which by these professions she might earn. Were these employments for women honored as matters of science, as are the professions of men; were institutions provided to train women in both the science and practice of domestic economy. domestic chemistry, and domestic bygiene, as men are trained in agricultural chemistry political economy, and the healing art; were there endowments providing a home and salary for women to train their own sex in its distinctive duties such as the professors of colleges gainimmediately a liberal profession would be created for women, far more suitable and attractive than the professions of men. Let this be done, and every young girl would pursue her education with an inspiring practical end, would gain a profession suited to her tastes, and an establishment for herself equal to her brother's, while she would learn to love and honor waman's profession.-

Dr. ADAM CLARE, who had a strong aversion to pork, was called upon to say grace at dinner, where the principal dish was roast pig. He is reported to have said on the occasion: "O Lord! if thou canst bless under the gospel what thou didst curse under the law, bless this pig!"

Fern Grove Gymnasium.

BY MARY ALICE IVES SEYMOUR.

THE village of Roseneath, named in the sunny days of June, when sprays of prairie roses clustered against cottage walls, and sear-let buds of the "Michigan" hung over garden fences, was almost hidden by the green hills and rocky glens of Massachusetts's loveliest county, ever-glorious Berkshire.

Away from the noise and excitement of city life, the village children grew into beauty, strength, and happiness; the beauty which God's blessed sunshine and pure, sweet air gives to all who seek it, the strength which simple modes of life bring to all those who live plainly, peacefully, and contentedly, and the happiness that ever comes to those who live in love and charity with their neighbors. Some there were indeed, who were neither beautiful nor happy-coarse natures, discontented, fault-finding, jealoussuch there must ever be in this human world, even as deadliest purple nightshade shares the sunlight with the balms and balsams of healing power in the flower realm of nature. And as the nightshade loves to creep from its station in the shadow of stone-walls, or damp woodland dell, to the stronger sunlight that upholds the lily-bells, twining its poisoned tendrils upon the flower-stems, so the petty spite of some discontented human heart will whisper slanderous report against a fairer, purer nature than its own. Roseneath had its deadly nightshade, as well as its roses and lily-hells. With the former we have nothing to do, but leave them in the darkness they seem to love so well, and turn to the sunshine-loving natures who gathered around the village favorite, Marion Berkley.

Among these were numbered Lilian Lee, Carrie Gilbert, and Alice Dudley, three very beautiful girls, whom Alfred Renton, an artist from New York, had painted with Miss Berkley in his "Four Seasons," a picture which thrilled every one who looked upon it in last winter's exhibition at the Academy of Design.

"And who is Marion Berkley?" asked strangers who came to idle away summer days in the mountain air of Roseneath. The shock which the answer gave them seemed electric. "A Gymnastic teacher! Only a Gymnastic teacher! Oh, I thought she was some young lady!" And they relapsed into silence until again electrified by the superb beauty of the lady in question when they met her for the first time. Often it

would be, as she passed them on horseback in the narrow mountain roads, where, reining in her thorough-bred, she would wait until they passed, or leap her horse at the first stone-wall and dash across the nearest meadow; but sometimes it would be in the hotel parlor, visiting her friends, while the charm of her voice-tone in conversation, her perfect command of the French and Italian languages, and the superior culture of her voice in singing, won their hearts.

Who she was, then, became a question of anxiety to both gentlemen and ladies; from different motives, however, of course! What fashionable woman of the world can endure as rival a frank, truthful woman, thoroughly educated, mentally and physically? Pure air, exercise, bathing, and simple fare are the good God's cosmetics, and sure to give the beauty of health when rightly used; a woman who uses these will most surely outrival the woman who devotes herself to the silly, poisonous nostrums found in drug stores. She is a battery of magnetic forces that no heart can resist. I speak advisedly, for the experience of several years as a teacher of French, Music, and Gymnastics convince me that young girls who excel in physical culture, and are mentally cultivated, are the favorites and pets of every social circle in which they move.

This was Miss Berkley's experience, and to aid the young girls of her village home, and others who had "graduated," she established a Gymnastic School, where the refining influences of Music, Art, Languages, and Belles Lettres were adapted to the mind, as the Dio Lewis System was used to develop the body.

As the September days deepened into the glorious month of October, when woodland hill-sides are as flower-gardens to the sight, Miss Berkley gave her first Gymnasium Reception. Delicately-tinted notes found their way into the hands—I had almost said hearts—of those to whom they were addressed, for who can open an elegantly-written invitation, on delicately-perfumed paper, and resist that subtle refinement pervading even words like these?

FERN GROVE, Sept. 28, 186-..."

Every invitation was accepted, and on the evening in question all the guests were ushered into the beautiful hall.

Curtained with scarlet, festooned with wreaths of hemlock and pine, and hung with paintings and engravings, the spacious gymnasium was the picture of comfort and luxury on that mild September evening, when opened for this first public reception.

At 8 o'clock, the pianist, Mr. Merivée, entered the brilliantly-lighted room and took his place at the piano. The merry laughter and pleasant talk of parents and friends was soon silenced, for as that grand Marche des Amazons rang out, the class entered the room, and Miss Berkley took her place upon the platform. Over forty young girls, dressed in a tasteful costume of white alpaca, with scarlet silk searfs, followed Lilian Lee as she led them in with the Wand March. Around the room, then up to the platform they came in single file, and each one as she passed raised her hand to her forehead in the graceful military salute.

Lieutenant Berkley, who stood behind his sister's chair, returned them in gallant style, declaring he was wretched because his "brothers in arms" at West Point were deprived the sight of these, their lovely sister comrades! Brilliant and more brilliant flashed out the music, and more and more involved winded the graceful mase of the Wand March, but its height of grace was reached when Schulhoff's Galop di Breoura sparkled from the piano keys, and Lilian, with Carrie Gilbert, came down the room, the wands raised, and feet crossing in the graceful double steps. Quartettes followed, and then, marching back, unwound from the Victoria phalanx, and rapidly in single file wound, and again unwound, until each pupil had taken her place for wand exercise; and the music ceasing for awhile, Miss Berkley gave the order, "Parade rest."

The applause was long, and well deserved. Lilian and Carrie, the leaders, very prettily acknowledged it by another graceful salute, à la militaire, to the audience assembled on either side of the room. The Wedding March began, and at the signals, every wand was in position. Evenly and steadily the exercises were carried through, and as the last measures of the music trilied above the well-marked octaves in the bass, the whole class fell back; and as the final chords sounded they sank into their seats.

"Ah, that is something new, Marion!" exclaimed her brother. "They manage the tempo grandly; musical gymnasts, indeed!" _"They'require perfect music, however," replied Marion; "then musicians, as the leaders are; they know just what to do to bring their exercise to a close, and adapt even their retreat to the temps of the music."

After a few moments rest, and a great deal of flattering nonsense from Miss Berkley's young gentlemen friends, whom she told to congratulate the young girls on their success, Mr. Merivée began Wollenhaupt's "Dernier Sourire," and the class advanced for exercise with dumb bells.

"Waltsing may be the poetry of motion," whispered Mr. Renton to Mrs. Lee, "but indeed nothing can surpass the dreamful beauty of girlish figures in these attitudes. Take No. 10, or the 'long side charge,' it is the embodiment of grace and strength combined!"

And it was so. The exquisite contour of the figure as it rested on one slender ankle, the perfect slope of the arms from the beautiful little hands to the delicate foot, resting on the floor far behind, was admirably sustained; and when the young girls recovered themselves, and after the short exercise they again bent forward, arms extended and bodies beautifully poised, as if flying down to the floor, the applause was unbounded!

"No wonder you are enthusiastic over gyminastics," exclaimed friends who gathered about, Miss Barkley when the class returned to their seats. "Perfect grace and skillful management of position is admirably attained by your pupils. How I wish you had on your costume, and would exercise with them."

"That blessing is rarely granted us," laughed Alice Dudley, her assistant teacher, but when she dees give us a practical exemplification of an attitude, I long for the chisel of a Phidias!"

Marion merely pinched the ears of her friend, who sat on the footstool before her, and tried to hold her hand before her mouth to prevent further words, but Alice would not be silenced.

"You need not talk to me of the exquisite poss of the Venus de Milo, or the perfect repose of the Agrippina of the Muséa Bourbonique at Naples; had Marion lived in the age of Pericles, and gone off in that 'long side charge,' before Praxilites, es still later, in presence of Buonarotti, I think we should have had a marble Sappho, leaping from a marble rock of Lucrece, or some saintly Miriam leaning far over the rock-bound coast of the Red Sea, chanting her song of triumph and victory!"

A merry shout of laughter greeted this remark, but it grew still merrier when Mr. Merrivée said: "And had Mozart seen her we should have had something like this..." and he turned

to the piano and flashed off a medley of the most joyous scintillations of that master's delicious genius.

"How some people would be shocked at classing gymnastics and Mozart together," said a friend, joining the group. "Do you know some parents have objected to gymnastics on the ground that they appertain to circus-riders, ballet-dancers, and the like? Others because it will be of no use to their daughters in society!"

"Utterly absurd!" exclaimed an old French gentleman, whose long residence among the higher circles of European society made his opinion somewhat regarded; "absurd; American girls need all the exercise in graceful attitudes they can get, to prevent them from stooping over, becoming hollow-chested, and—"

He ceased, for Marion's eyes flashed merrily as she softly whispered, "pokey every way."

"Yes," he resumed, laughing—'pokey,' that just expresses it. Unless American girls are careful, they are easily recognized by their mincing, tetering way of walking, and stooping shoulders. A love of grace alone ought to make girls anxious to be fine gymnasts."

"A love of health alone," interposed Marion, as she arose from her luxurious velvet chair and leaned her soft white cheek against her brother's shoulder. "Any thing but sallow complexions, or pepper-and-mustard looking skins! Ah, this free, graceful exercise of every muscle is the best cosmetic in the world!"

"And then it gives such admirable voicetone," suggested Miss Alice and Mr. Renton at the same instant. "Come, Marion, while the class are resting, and so pleasantly surrounded by their young friends, sing for us."

"Any thing to uphold gymnastics," she replied, merrily—"here, Mr. Merivée, please accompany me." She placed before him the well known finale, 'Ah non giunge.' Her full, rich voice lent pathos and expression to the melody. She hardly seemed her quiet, dignified self, only a fair, fresh girl among the woods and valleys of a pastoral home.

"Well, if gymnastics have helped her to sing like that," whispered a mother to her daughter, as the applause that followed the singing had somewhat subsided, "I hope, Mary, my child, you will practice very faithfully."

"Are you not fearful of too violent exercise f".
questioned an anxious mother who sat near. "I
am so afraid my children will over-exercise."

"Oh no, that will be impossible so long as they are with Miss Berkley," interposed Alice, who had caught the remark. "Miss Berkley is in the gymnasium whenever the class meet, and exercising as they do under her own eye, it is impossible for them to overwork. Of course, there is no knowing what a poor half-educated gymnastic teacher might do with her pupils, but when a teacher is thoroughly trained in the theory as well as practice of gymnastics, and in the study of physiology, no possible danger can arise from over-exertion. If a pupil, in direct disregard of her teacher's instructions, over-exerts herself out of class hours, the teacher is not to blame; and yet the best teachers have been blamed for this! Injustice is so easy!"

At this stage of the conversation, Miss Berkley appeared. She had heard enough to perceive Alice's drift. "Oh, yes," she added pleasantly, "injustice is very ready to be shown when we are in ignorance of the things we condemn. Doctors tell us not to eat this or that thing, not to overwork our digestive organs, and we disobey-sickness is the result-do we condemn doctors? Oh no, indeed, we send for them, and pay them well to cure us; but gymnastic teachers, oh dear-' She put on a look of despair, laughingly turned away, and motioned to Mr. Merivée to play Mabel Waltzes, and arranged the class for that most graceful of all exercises with apparatus, "Rings with Quartettes." This was followed by some selections from Free Gymnastics, and then, after another "rest," Mr. Merivée played a brilliant quickstep of his own composition, and the young girls went through with the Rapid March.

At its close, instead of resuming their seats, the folding-doors were thrown open and they chassied out into the hall, then up the broad staircase into the drawing-room. Congratulations poured in upon every side. Miss Berkley and Alice Dudley were indeed proud of the success, and gladly promised other receptions of a similar kind. A few of the young people returned with their friends to the Gymnasium, to observe the tasteful decorations, particularly the floral treasures, placed in delicate vases on brackets, with long pendant vines swaying from them and seeming to waft from side to side the delicate perfume of heliotrope and tea-rose, while from the basket that adorned the piano, the odor of orange bads and starry jasmine filled the room.

"Some one has said that we only remember the shadow of the beautiful," remarked an old gentleman, as he bid Miss Berkley good night. "I assure you the shadows of these graceful girls will move through my dreams."

Reader, I have not been romancing, except in names and location. Such receptions I have witnessed, and known their good results.

Keep Up with the Times.

BY MRS. M. A. KIDDER.

EEP up with the times, ever treating the past
With all the respect that is due!
Our love for old times and old customs don't give
An excuse for neglecting the new.

In laying out money for comforts at home,
In spending the dollars and dimes,
Avoiding extravagance, folly, and waste,
'T is best to keep up with the times.

Keep up with the times as we journey along,
With the pure love of country at heart,
Resolved, with the help of the good and the true,
In the world to accomplish our part.

In storing our minds with all wisdom profound,
In hoarding up knowledge like gold,
In "buying the truth and in selling it not,"
Thus heeding the maxim of old;

We'll join in the chorus of Progress divine, And march to the sound of her chimes. In childhood, in youth, in manhood and age, We'll try and keep up with the times!

Angel Whispers.—A. Sonnet.

BY NATHAN UPHAM.

BRIGHTER than the stars of even,
Sweeter than the breath of dawn,
Purer than the dews of twilight,
Softer than the step of fawn,
Fairer than the lily's whiteness,
Kinder than the coo of dove,
Passing all in maiden brightness,
Glows the heart of her I love!
Earth is fairer for her footsteps,
But the angels watch on high—
As we watch the stars at even—
For the light of her bright eye;
And in whispers, softly tell,
"Soon she'll come with us to dwell!"

Take Gare of your Noses.

BY REV. CHARLES H. BRIGHAM.

HIS will be remembered by the pupils of the late Dr. John C. Warren, of Boston, as the emphatic parting sentence of one of his most instructive and curious lectures. There is a sense of the fidiculous in all that is said about the nose, and we always laugh when we hear of disaster to this organ, however painful the injury may be. The nose is to the other features what the ass is to other quadrupeds, very useful, very important, indispensable indeed, yet still a subject for mirth and mockery. The proverbs about the nose are proverbs of contempt; and a special work on this theme, like that published some years ago by an unknown Englishman, will inevitably be mistaken for a joke or a satire. The eye and the ear have a dignity which the nose can not claim. They belong to a higher caste. They can be specialties in medical treatment. There are "eye doctors" and "ear doctors," but who ever heard of a "nose doctor?" Who ever saw the sign, "Diseases of the Nose attended to and cured?" Those who have pains and troubles in the other senses and their organs are quite free to talk about them; but the sense of smell is set aside from ordinary conversation, and there is shame in saying much about it. Half of the preachers who read that twelfth chapter of Paul's first letter to the Corinthians omit the seventeenth verse, which asks, "If the whole were hearing, where were the smelling?" The eye and ear can be educated, but no theory of the education of the nose has yet been announced. That is an inferior branch of æsthetics, which would seem as much out of place in a treatise on the culture of the senses as the songs of the negroes in a Catholic mass. Among all our societies of reform none has yet appeared to assert and vindicate the "Rights of the Nose."

This ridicule of the nose is not deserved. This maligned feature has not only intrinsic dignity, but biblical and ecclesiastical honor. According to the story of the Genesis, the first inspiration of the soul of man was when "God breathed into his nostrils." The nose was the vital organ in the primeval day, and life came in and went out through it. "The spirit of God is in my nostrils," says Job in his parable. And of the horse, the noblest of all animals, we read in the Hebrew song that "the glory of his nostrils is terrible." The nose is the sign of power and of command, more than any of the features. It

makes the sign of life by the smoke which goes out from it. There is a very ancient picture in one of the Eastern churches representing the Almighty in the cloud when the prophet is waiting to hear his voice. The outline of the form and face is very dim, and the eye and mouth are not visible, but you see the nose distinctly in front, and it becomes the index of the picture. The prophet Amos distinctly shows us Jehovah indignantly refusing to "smell in their solemn assemblies."

And every visitor in Rome must have noticed the part that the nose plays in the most solemn ceremonies of the church. The Pope and Cardinals, on their knees before the altar, often break the course of their prayer by the opened snuff-box and the audible sneeze. Food is not to be allowed at that serious time, but there is no prohibition of Maccaboy. The requiem for the dead is more comfortably chanted with that tickling to the nostrils. Peanuts are not permitted in St. Peter's, but snuff is in place, and the high dignitaries pass it from hand to hand, and use it with sest and without fear. So, too, incense in the churches recognizes the right of the nose in worship, and assigns the sense of smell to the witnessing company of saints and

The nose is the sign of many things, and has many uses, physical and spiritual too. It is the sign of temperament, of race, and of character. In comparative physiognomy it is the most important of the features. When men are likened to animals, or to birds, or to reptiles, or to fishes, the nose is the instrument and medium of observation. The nose is the bond which binds man in the physical line to the eye of ordinary Without this organ, it would be hard to find resemblance of man to horses, or hawks, or frogs. The nose marks races, and is classified according to races. The Jews have one variety of nose, the Greeks another, the Romans another, and the Chinese another. There are family noses, too, which go on from one generation to another, as can be seen in the portraits of the French Bourbons, or the Scotch Stuarts. Every one knows that the shape of this organ tells the disposition of the man as well as his words could tell it, whether he is mild or violent, gentle or imperious, lasy or quick, careless or inquisitive. The nose tells,

beyond mistake, what the deceptive tongue may try to hide. And it has much to do with the beauty of the face. Its ugliness may ruin the whole expression of the face, and spoil all the other features of their grace. The softest eyes, the most blooming complexion, are made repulsive by a broken nose, which transforms. all their beauty. The Levitical law would not allow a flat-nosed man, more than a dwarf or a hunchback, to offer sacrifices at the altar. It is true, that tastes differ in the estimate of beauty in this organ. To some the Roman nose is as awkward as the pug nose is pitiful, while others are fascinated by the "celestial" nose on the face of a young virgin. The nose of the Mongol or Hottentot has no charm for the Spaniard or Frenchman. (t has not yet been settled what is the curve of absolute beauty, or whether the typical nose is the straight nose of the Greek divinities. The nose that is right for men is not quite fit for women, and the attractive Petree of Miss Bremer's novel is not envied in the length of this organ. The perfect nose is very rare, in life or on canvas; as rare as the faultless character. The Grecian nose, so much prized, is in its pure state as difficult to find as a white weasel in summer; you look in vain for it among the loungers and the beauties of Athens today. That very respectable nose, the sign of wisdom, which has the name of "cogitative nose" in the text-books, can not be well described from the living subject. The greatest thinkers have not had it. Noses are unquestionably the indication of character, but the study of character from them is as complicated and difficult as the Positive Philosophy in Comte's exposition. The basis of the system is not yet settled, nor the canons of criticism. Even the practical induction, that tells of the habits of a man by his nose, is by no means trustworthy. Mr. Nasby's friend was sure that he was a sound Democrat, of the New York city pattern, and a "repeater," too, by that nose of his. Yet it would not be safe to see in every man a toper who has the nose of a toper-red and bloated. Some of the leaders in the Temperance movement, the extreme Nazirites, have fire upon their nostrils as flerce and intense as any victim of the intoxicating cup. The most active man in the movement in Massachusetts was once, from this sign, embraced in the street by a drunkard as a brother.

But considerations of nasal aesthetics are aside from the the purpose of this essay. We confine ourselves rather to the nose as a sanitary agent, to the bearing and influence of the nose on health and physical soundness. The nose has many physical uses. According to an old lyric, which the New England children of the last generation knew by heart, the chief use of the nose was to wear spectacles for the convenience of the eyes; and certainly, without the nose the eyes would have a poor chance, in their short sight or dim sight. A barber finds the nose very convenient in plying his trade; it is a handle for the face, steadying this for his scraping. Among savage tribes, and even in some cities, the nose bears ornament; there are rings in its cartilages, as through the ear or on the fingers. The nose of the bullock has been from the earliest time the instrument of his subjection; when he is led by that he is docile, and is the servant of his master. The hound's nose in the hunt assists in a sport as primitive as it is enduring. If Nimrod hunted without the hounds, his name of "mighty hunter" is misapplied. Actson, we know, had them, and found them rather false friends. A mild but very significant form of assault used to be in tweaking the nose of a foe. This was the preliminary to a duel, in the days before revolvers were invented. And the recent comedy of nosepulling, which consigned an amazed aristocrat of Boston to sixty days in the common jail, proved to be what Bottom in the play calls "very tragical mirth." What are we coming to, if a gentleman can not pull the nose of a snob who insults him, without suffering the fate of a vile criminal? What else is a blackguard's nose good for?

The first sanitary use of the nose which we mention is, that it equalizes the temperature of the body, prepares the air for breathing, and gives to it the proper warmth and tone. The nostrils are really the "registers" of the human furnace, admitting or keeping out the air that is too hot or too cold. Through these passages the degree of animal heat is regulated and adjusted, and the body is made capable of bearing extremes, whether of heat or cold. A well-conditioned nose gives a traveler in Siberia, or in Ceylon, great advantages in meeting the trial of those climates. The nose is the natural respirator, better than any arrangement of wire or sponge. It protects the lungs more effectually than flannel, and it saves the throat from serious The Hebrew song was scientific in showing the breath of life coming in through this organ, and the smoke of strength coming out through the nostrils. Breathing through the nostril is safer than breathing through the opened mouth. The harsh air is softened in its passage through these tubes, and does not irritate as when taken by the throat directly.

The untutored Indian, even in his running, keeps his lips closed and breathes through his nostrils, and so is nearly exempt from pulmonary disease, either of inflammation or of tubercle. Colds are less likely to come where the nose is made to do its whole duty. The nose is not merely a safety-valve to let off in "refreshing sneezes" the pent up vapors of the head and throat, but is really a regulator of the whole machine, keeping the brain and lungs and stomach in harmony, and preventing quarrel among the members. Without the happy mediation of this regulator there would be perpetual schism in the body. The nerves of sensation and of motion would be constantly at war.

Another sanitary office of the nose is in detecting nuisances of all kinds. It warns of danger as effectually as a watch-dog, or as an It scents the poisonous effluvia, alarm-bell. and the noxious gases. It protests continually against uncleanness and filth. A sensitive nose keeps one from living near shambles, and tripe factories, and bone-boiling vats, and tanneries, and breweries, and distilleries, and chemical works, against living in cities that have no sewers, or in streets that have no light. The nose finds the danger in tenement-houses, without any nearer inspection, and the horrors of the middle passage in the emigrant ships. gospel of purity has this as one of its best missionaries, and sends it forward as a spy, as Joshua sent his spies to find out the ways of Canaan. If the warning of the nose is heeded, the dens and burrows where vice and misery fester will be cleared away, and the sun let in upon the hiding-places of pollution. The nose, too, is a skilful physician in diagnosis, if not in treatment. It finds infallibly some of the worst diseases. It is surer than the eye in separating the elements of relief, in distinguishing drugs and draughts; it makes tasting unnecessary in how many cases. Animals use it to choose their food; what has not the right odor they will not take into the mouth. And the animal instinct would be a safe guide to men and women in their choice of food. It is a safe rule to follow, never to eat any thing that has an unpleasant smell, never to wear any thing that offends this sense, never to live in any place where this sense is vexed and irritated. A sea prospect may be fascinating, and the breezes bracing, but if, when the tide is down, a long reach of nauseous mud fills the house with sickening odor, it is better to heed the protest of the nostrils and live farther inland. None may safely neglect the warnings of this demonstrator of poison in the air.

And then the nose has a third office of ministering to health, in the exquisite pleasure which its sensations give. What is there more delightful as sensual enjoyment than the smell of perfumes? The nose catches that part of pleasure which is the most imponderable and ethereal, the finer essence, which is so invisible and yet so penetrating. Half the worth of the lily, the rose, the hyacinth, of all the flowers in the garden comes to us in this sense. And when all the other beauty of the flowers is lost, when they are crushed and broken, this may be kept and concentrated, and the highest joy of the garden be spread upon the toilet table. We can not tell how much of the real nutrition of the body comes through this sense. Swedenborg somewhere maintains that the fine essences of food are removed and taken from its grosser parts directly to the brain, without any aid from the digestive process. In this way, it may be, the cooks in the kitchen are fed before the guests in the hall; and it explains the fact of so many loungers by the basement stories of the large hotels. The pleasure of smoking tobacco, by which so many souls are deluded, is not, as they think, in the taste of the smoke, but in its smell. It satisfies the same organ as the snuff which the Head of the Catholic Church is so fond of taking. A recent exposition of the story, makes it not wonderful that, even in his submarine prison, Jonah was in the mood for thanksgiving, since "the weeds were wrapped about his head." Evidently he had a well-filled pipe, and was enjoying the fragrant cloud which changed the confined atmosphere of that unwholesome interior.

Useful as the nose is, there is no organ more shamefully trifled with, and more injured by bad treatment. If it can not be educated, like the ear or the eye, it can certainly be depraved. by bad habits and bad associations. It can be made to lose its sensitiveness, to cease to give its quickening joys and its timely warnings. A nose that has no sensitiveness has parted with its best power of service, and is not much better than an excrescence. It is a perpetual lie, pretending to an influence which it can not exert. It is the victim of catarrh, moreover, as much as if it were in good condition. And a nose that is out of order may bring a deal of misery. What is more vexatious than the cold in the head, which makes the man who has it a nuisance everywhere, in his changed articulation, and inflamed nostrils? How we pity the mighty man, whose composure is destroyed by the fever which shuts his nostrils, and fills their passages, drawing wretchedness from the aroma of the

hay-field or the rich perfume of the rose! The eagle eye of Daniel Webster was dimmed in the last days of summer, by the agency of that thin nostril beneath it, which changed the grand round tones of his majestic voice into a thin, husky, snuffling. Nature condemns some to this misery, but by far the larger part of those who suffer from nasal troubles and complaints suffer in consequence of their own negligence and imprudence. Even the habit of speaking through the nose, which is an American characteristic, is in half the cases acquired rather than natural. Few will probably insist that prayer through the nose, fervent as it may be, will get a speedier or fuller answer from this style of utterance. The neigh of the horse is a positive sound, but the human nose has only a sharp negative in its attempt to tell thought or emotion.

Catarrh is the interior misery of the nose. It has also its exterior miseries; less frequent, perhaps; but still annoying, and sometimes painful. Redness is one of these, a chronic blaze, lighting up as with angry fires, all the countenance. Carbuncle, too, chooses this conspicuous eminence quite often for the display of its venomous ravage. A wart upon the nose is an identifying mark which has arrested more than one evil-doer. And the outward symmetry of the organ may yield to the disease of the bone which holds it up, until it becomes only an There are noses of men orifice on the face. which wear, as in the feline race, a brush of whisker around and on their point. The pathology of the nose, if not so full as that of the eye, is yet not insignificant.

Of course, where an organ is so important, so prominent, so significant, so liable to get out of order, its health should be a serious concern. "How to get a cogitative nose," the title of one of the chapters in the volume already referred to, is of less moment than the question, how to keep the nose decent and respectable, to keep it from being an offence to others and a pain to one's self. And a few simple rules may be mentioned, not less valuable that they are so First, avoid all excesses, in eating or drinking, or any kind of sensual indulgence. Eschew vice, in any and every form. Other things being equal, the chances are that the nose of a sober man, who keeps the Commandments and shuns the intoxicating cup, will show its natural color, and be saved from the loathsome maladies which swell and fester on the nose of the drunkard and the profligate. Strong wines, strong liquors, rich food, and the sin of the house of pollution, are the worst foes of the nose, and no art of cosmetics can overcome their power, or neutralize their work. They break through all disguises, and expose the sinner's guilt and shame. The nose pleads with its owner to be temperate in all things.

Then a second rule is, not to vex the nose with foreign substance. In spite of the habit of the Pope and Cardinals, snuff-taking has not been raised into a dogma, or a law of the Holy Catholic Church, or imposed as a duty upon the faithful. It is possible to inherit the kingdom of God without it. In spite of the tradition of the Puritans in New England, the dust of tobacco can not be taken as food for the olfactory nerves. Foreign substances will get into the nostrils, in spite of all our heed. But it is foolish deliberately to throw or draw them in. Snuff in the nose is no more reasonable or safe than sand or iron-filings. To these men can get accustomed; and the patriotic Californian pleads that the daily sand-storm, which fills his eyes and nose in the streets of San Francisco, is delightful and exhilarating. It is dangerous, nevertheless. Except as a medicine, no palpable substances should ever be taken into the nostrils; nothing more solid than water. Soap and sand may do for the floor, but not for the mucous membrane.

Then a third rule is, to let the nose alone, not to handle it, or paint it, or try by art to change its shape or remove its deformities. It may be protected from extreme cold by suitable covering, but in most climates it can be left free and uncovered without risk, and is better so. Manipulation only aggravates its cutaneous maladies. If it is misshapen, bear the misfortune, and trust to overcome the bad impression of the face by the faithfulness of an upright life. Wait rather for the silent and subtle influence of feeling upon the physical frame, and do not try to change nature where nature resists so obstinately. Let the nose have its own way, and do its own work, and heal its own natural lesions. Interference with this organ is not dignified. We knew a schoolmaster who lost the respect of his pupils because his nose was always shining from the incessant friction of his wandering fingers.

We might add some words upon the habit of sneezing, which is by some hated as a vulgar indecorum, while others rejoice in it as an excellent omen. Whether the blessing of God will always follow the spasmodic contraction is more than we can tell. But if sneezing be good, like all other good things, it should be kept within bounds. A sneeze in company should be suppressed, and not allowed to proclaim itself too loudly. It is as untimely as the audible

sleep, which disturbs in church the calmness of the worshippers. Of late the new theory has been advanced that sneezing is of the throat more than the nostrils, and is a twin brother to the cough. We need not enter into that discussion. When we are alone, the heartier and more sonorgus the sneeze is, the more perfect will be its work. But in society, it should always be modest in its strength and its proportions.

We have said nothing about the intrusive use of the nose, when a man meddles with what is no business of his own, since that proverbial use is secondary and metaphorical, and these essays deal only with literal, physical facts.

Spurs and Reins for those who Need them.

BY J. E. SKODGRASS.

WAKE UP!

THERE are other sleeps beside that which requires the closure of the eyelids as one of its conditions. There are people, not a few, who are sound asleep, to all practical purposes, while their outward eyes are wide open.

The Bible speaks of this class of people as those who "have eyes, but see not," and puts them in the same category with those who "have ears, but hear not."

Some people go through the world as if they were asleep to all the interests of life, excepting, perhaps, those concerning their animal nature merely, such as the processes of eating and drinking, common to all animals. They see nothing beyond these wants, and hence those conditions and exertions relating to the supply of higher wants are all unknown to them. As to observing the wants of their fellow beings, that is utterly out of the question. It never enters into the thoughts of such "sleepy heads" as theirs, that any body else has any wants!

The class of persons to which I refer may be said to go about, like the swine, rooting for themselves, and grunting selfishly as they go! They are practically asleep to all the world beside. And they may be expected, when their time comes, to "perish as the swine perisheth."

Now, to all such I would say, "Wake up!" It is not a type life you are leading. You are utterly at fault. You are either too stupid or too selfish—perhaps both. Keep awake to all that is going on around you. You are living in a wide-awake, active world. While you sleep it moves. Ay, and it moves gloriously as to all who do their duty—ignobly to such only as sleep all the while, like yourself!

Let one and all wake up! Remember, 'eternal vigilance is the price of liberty," not

in politics only, but in all the other departments and concerns of life.

RICH MEN'S SONS.

Desirable as wealth is, behold how little it generally blesses those who have inherited it, but especially the sons of rich men. Indeed, inherited wealth has so frequently proved a curse, rather than a blessing, to such persons, that observant people are moved, by the very sight of them, to exclaim, "poor fellow, we pity you!"

And is there not abundant room for pity, instead of congratulation, in view of the temptations to which rich men's sons are almost inevitably subjected? The surest of these is the temptation to idleness, which has aptly been called the mother of vice.

While labor is falsely viewed, by society in general, as a curse and a degradation, how can the children of opulent parents be expected to take pleasure in it? Should they not rather be expected to shun it?

But, apart from social considerations, where is the motive to come from to the rich man's son? The sons of the poor, who have, at most, inherited a good name, have the stimulus of prospective improvement, in their pecuniary condition, as their motive. Laboring, at the beginning of life, from necessity, they soon acquire the habit of industry, which is a great thing, and henceforward they work from the very love of work. To them, now, activity is a necessity. Idleness would prove a great bore, if not an actual calamity.

When first independence, and then wealth, perchance, crowns the perseverance of the last-named class—poor men's sons—they know how to appreciate the value of their acquisitions. They are not so apt to squander their means as

those who have inherited it. "Come easy, go easy," has no application to them. But it applies quite commonly to rich men's sons, and too many of them realize its truth, to their sorrew, in the end.

Now, in writing this, I have had a practical point in view. It is this: that every father, and especially every wealthy father, should give his sons some trade. I use the word in its widest seuse-that is, as meaning some settled, systematic line of employment, whether called a trade, a profession, or a business. This, if never followed by them in manhood, will be of no disadvantage to them then, but an actual advantage by dint of the development of mind, if not of muscle also, effected by it, as a means of physical culture. But it may be needed in the future of even the rich man's son, because of unforseen reverses, and it will then become a blessing indeed-a source of self-dependence, and consequently of independence as to relatives or neighbors, who will be all too ready to scoff at the unfortunate, especially where envy has been excited by previous affluence.

DEBT!

Observant reader—you who have lived long enough to have the tutorage of experience, whether your lot has been cast in the populous city, the quiet village, or the still more quiet country—I appeal to you: Is not the word "debt" deserving of the exclamation point I have affixed to it?

When I mention debt, I allude not to obligations carefully and wisely incurred in the due course of a legitimate business. When incurred by men employed in the primitive and everhonorable toil of the farmer, who really needs a little more land and safely buys it on credit, or such as have land which needs money to make it fruitful, or by those discreetly engaged in commerce or pursuing some mechanical trade, I have no word of condemnation for debt. I allude to it under a very different class of circumstances-to its incurment where it might be, and therefore should be, avoided-when other motives, very different from those enumerated above, have invited it. Shall I, need I name them? I trow not. They are all around us. They are patent in the results, the woeful results of every day life-in the fine house, and the finer furniture and equipages, that are owned but not paid for; in the gaudy garments and glittering jewels worn by people who, as all their acquaintances well know, can not afford

Such debtors as these are doubly slaves. They

are slaves to their vanity as well as slaves to their creditors. Once these, their masters, could have asserted their control over them with their incarceration in any State of the Union, and in some of the States that is still the creditor's legal remedy. Who will say it would not serve some debtors right to imprison them, howsoever unjust to the honest and really unfortunate debtor such a course would be?

I repeat the thought: Debt is a species of slavery. As such, it is an evil to be shunned, not invited—often a crying and cruel evil. Once in it, to get out of it is almost as difficult as it was to throw off the fabled shirt of Nes-

Let all keep out of debt who can!

WAR.

· If it be true that a condition of peace is the time to prepare for war, is it not equally true that a pacific era, such as we Americans are again enjoying, is a good time to reassure ourselves of the disadvantages, not to say the horrors of war, and of the blessings of peace?

Lord Clarendon took no superficial view of war, when he declared that it lays a people's natures and manners waste equally with their fields and habitations, and that it is as difficult to preserve the beauty of the one as the integrity of the other, under the violent jurisdiction of drums and trumpets.

That war does thus play sad havoc with popular morals all history lamentably warns us, and herein lies the secret of the ultimate downfall of nations that seek rather than shun it.

Blessed, indeed, are the arts of Peace as compared with the arts of War! And lucky is that nation whose rulers have not the power, attributed to Cadmus of old, to cause armies to spring from dragon's teeth scattered upon the ground. The more costly wars prove to be, the more likely are they to be shunned, when once a people have a taste of the heavy debt which they never fail to leave behind them, as a legacy.

Imagine the expenditures at all our armories diverted to the uses of peace instead of war—to the manufacture of the implements of agriculture, instead of those of warfare—and you will have a glimpse of the blessings of the "good time coming," when swords are to be converted into plowshares and spears into pruning-hooks, and the nations are to learn war no more.

Trite as that citation will sound to my readers, I ask them whether there is any other more welcome to their minds? I confess there is no picture more inviting, to my own mind, than a great nation, such as ours, at peace, not only with itself, but all the world beside.

Let us see to it, henceforward, that, while our war steeds are ready, they are also tightly reined.

THE GOLDEN MEAN.

"Juste milieu," is a favorite phrase with a certain French school of politicians. By it they express what they consider middle ground between the old-fashioned monarchial and the new-fashioned republican principles of government. But the true meaning of the phrase would give us, in English, what we call the golden mean"—a point well worth seeking for in all the affairs of life.

The tendency of the American people has been, of late years, to grow too much like the French, in their politice-economical action. For example, look at the history of our commerce. Now we have had expansion, then contraction, in our credit system—one year the liveliest activity in mercantile life, with a tendency to importations far beyond our legitimate means of payment, to be followed, the next year, by stagnation, perhaps pressure.

The same is the case with our politics. At one time we are all excitement about some election. We seem to forget every thing but politics. For the time, every other interest suffers from neglect. Then, again, every thing is quiet, almost the quietude of indifference reigning as to the state of the country.

Nor has literature wholly escaped this tendency to extremes, as more than one crisis in "cheap publications" has borne witness, to the sorrow of the publishers and all considerate people—the former because of losses rather than profits, the latter because of the demoralization of the popular taste.

What is most desirable is, the observance of the justs milieu, or "golden mean," in all the affairs of life—in our commerce, in our pelitics, and our literature alike. That once secured, all will be well.

DRONES.

The habits and traits of animals, through all the classifications of Zoölogy, from the mastodon down to the most diminutive insect, are full of instruction to man. They have furnished not a few of the most striking and expressive of the analogies of our language. Often the simple name of some animal expresses our thought more clearly than a dozen less emblematic words would do it, as when we speak of mammoth size, snail pace, etc. How striking the analogy

between a hive of bees and a community of men. Every community furnishes people who answer to the two classes of bees—the workers and the drones.

There is nothing more creditable to be said of a business man, that he is "as busy as a bee." But what is more discreditable, in the whole vocabulary of language, than the epithet, "drone?" Who, with the least spark of manliness or self-respect left in his bosom, would run the risk of having such an epithet applied to him with the slightest ground for deserving it? Surely, no one.

Young man, have you the doubtful advantage of a wealthy parentage? Have you been wont to persuade yourself that there is no necessity for having a profession, or trade, or business of any sort? You are lamentably mistaken, if you have. Correct your mistake at once. If you do not, it may prove to be the "mistake of a life-time," when too late to correct it.

In any event, don't be a drone, my friend! Do something for the sake of your own physical health and mental contentment, to say nothing of higher motives. Do something that shall make yourself, while living, feel conscious that you live for some useful purpose. Thereby you will justify your neighbors in saying, when you are dead, that your were a "useful man."

Disgrace to all drones! Honor to all workers!

"I CAN'T!"

That expression would be bad enough on the tongue of an infant. To manhood, or womanhood, it is a positive disgrace.

How do you know you "can't?" Have you tried? Well, suppose you have—try once more. As the song says:

"Try, try again!"

Final success will make you feel all the prouder for your temporary failure—and stronger too. The task before you may be difficult. What if it is? It is for that very reason, all the more worthy of the attempt of a noble soul. If it were but an easy one, any numbskull might perform it. But then it would be no credit to you.

Resolve to know no such word as "can't?"

FASTIDIOUSNESS OF NATURE.—No two human beings were ever alike either in body or mind. In other words, Nature has been engaged in making men and women six thousand years, without making one she thought worth while to repeat.

Growth and Development.—III.

BY ARCHIBALD MACLAREN, OF THE OXFORD GYMNASIUM.

RAPID UPWARD GROWTH.

NOTHER feature of rapid upward growth - is that the chest scarcely expands at all during the process. It will be seen to run up from the waist without any expansion whatever, while the shoulders fold round to the front, and the head stoops forward from the base of the column of the neck; and seldom does a straight spine accompany such abnormal growth. I have known the chest to actually diminish in girth-grow narrower and narrower -as if it were tightened up by the extreme elongation of the general frame. Now the reason for these displacements is, that all these parts are held in their respective places by certain muscles arranged for this purpose; and as the muscles can only maintain their contractile power by frequent and varied exercise, they can not do this duty if they are denied that which is necessary to their functional ability. This law, which does not apply to these parts alone, but to every part of the body, is markedly seen in the muscles of the trunk. Were these duly exercised, stooping would be impossible, that a, continuous stooping, which involves the origin of many evils of development. Because, if the muscles of this region possessed their proper degree of power, they would of course perform adequately their functions-and one of these is to keep the body upright. It is as useless therefore to tell a boy thus imperfectly developed not to stoop, as to forbid him to cough when he has a cold, or to limp when he is lame.

STUNTED YOUTH.

Another abnormal form of growth, but much less frequent, is the opposite to the foregoing—is where the frame seems stunted from its natural height. This dwarfed and arrested growth will be found to have arisen in the majority of cases from some cause which interfered with the proper nutrition of the general system, and it in consequence may be inferred that any means which will restore this condition will restore the naturally attainable capacity for growth and development in the frame, so far as this may yet be extended over the natural period of growth still remaining.*

ONE-SIDED GROWTH.

Growing to one side, as it is called, is another form of mal-growth frequently to be seen, consisting of a disproportionate development, if not of actual elongation of one side of the body. I have not been able to trace this conformation to unusual employment of the side where the development preponderates, as would be expected; where I find this conformation it is usually with boys who take little or no exercise. No form of mal-growth, however, is more susceptible of rectification by skillfully-administered exercise. Like all departures from normal growth, this evil extends beyond itself and is productive of other evils. Lateral spinal curvature is one of its frequent results.

There are many other forms of mal-growth and partial development, all open to the curative influence of systematized exercise, to be seen with painful frequency of every school, less striking it may be, but all in importance, and all claiming the serious attention of those who are intrusted with the care and education of the young. In partial development alone—where no trace of mal-formation exists—an argument more powerful than any which I have advanced, or can yet advance, exists for the adoption of a clearly-defined system of bodily training at our large schools. I find that almost every youth at the time of passing from these to the University has, as it were, a considerable amount of attainable power and material capacity undeveloped; his body, or rather a portion of it, is in arrears in this respect, and as arrears, and as a recoverable debt, the youth may fairly view it. A large instalment of it he may obtain immediately. I find that during the first term (two months), with properly-administered systematized exercise, the chest will expand, under all ordinary circumstances, two inches, and under peculiar circumstances I have known it reach

time been stationary at the height of five feet two and fiveeighth inches, suddenly from the practice of systematised exercise began to grow at a fair and regular rate, and at the age of 21, when he went to India, his height was five feet six and one-fourth inches. Another instance is that of a school-boy whose growth had been all but arrested from a severe fall in childhood. Almost instantly systematized exercise started his latent powers of growth, and if nine months he had grown eight and seven-eighths of an inch.

^{*}A remarkable instance of this came under my observations few years ago. A youth whose growth had for some

double that amount. The general rule also is that where the chest has been neglected and is consequently in arrears in development, the arms and shoulders will have shared the neglect and so of course show a proportionate want of development. And these, as they share in all the work of the chest-are in fact the medium through which the chest receives almost all its exercise—share in the gain proportionately. Now had these parts received an adequate share of employment up to this time, this sudden development would be impossible, and it must have been arrears of expansion, otherwise the rate of increase would be sustained after the first term, which is not the case.

But it is not only, or even chiefly, for the faultily-growth, the imperfectly-developed, and the weak-although to these it is a necessity, a necessity if they are ever to be strong-that I plead for the regular adoption of a system of educational bodily exercise in our schools. What should we think of that schoolmaster, who, because a boy was apt and capable, and for his years well-instructed, would therefore and thenceforward leave him to his own resources and inclinations? Yet in truth similar are the reasons we constantly hear adduced when physical culture is mentioned. We hear men say, "all exercise should be free, should be voluntary, should be left entirely to a boy's own choice, inclinations, and disposition." Do we leave him the same license with other agents of health? his diet, for instance, or his hours of rest or of study? Yet none of these are more important to his welfare and well-being, present and future, than exercise.* Whatever may be the developed capacity of the untrained body it is as far from the symmetry and strength to which it may attain with proper culture, as is the clever but self-taught man from what he would have been with thorough educational training. Certain points in his character stand out large and prominent, powerful in a given line of action, but others are dwarfed and stunted, and show the more meanly from the prominence of others. So it is with physical development and with physical culture; the assiduous and exclusive application to a favorite exercise will strengthen and develop the parts engaged in its practice, but this pre-supposes the neglect of the remainder, and the result in both cases, the mental and physical, will be the same—inharmoniousness, incompleteness.

WOMAN'S RIGHT TO VOTE.—Some of the reasons why woman should not be hindered from voting are:

Her right to vote is as certain and perfect as man's. She is, obviously, equal to man, and essentially one with him. Her rights, which, in common with his, are under the control of the ballot-box, are as sacred as his, and are as important to her as are his to him. As well might woman undertake to keep man from the ballot-box, as man be guilty of keeping her from it. Infinite shame to man is it that woman is kept from it!-and this, too, by brute force! Woman is fast coming to feel this oppression; and, in proportion to her feeling it, is her sense of the worth and nobleness of man reduced. Nothing on earth is more important than that the sexes should bear themselves toward each other so justly, generously and lovingly as to inspire the fullest mutual confidence and to command from each other the highest honor. Woman should have no occasion to feel that man deals unfairly by her—least of all, that the unfairness is one which, as in the case of her exclusion from voting, is enforced by his superior physical powers.—Gerritt Smith.

HEIGHT OF MAN.—Dr. Gould, who examined a large number of students in the junior and senior classes at Harvard University and Yale College, together with some members of the professional schools, reports their average height 5,666 feet, and average weight 139,700 pounds. A. Maclaren, who has the charge of the gymnasium connected with the Oxford University, England, reports of the first one hundred names on his book, as they arrived at the University, their average height 5,825 feet, and average weight 132,980 pounds.

From the vital statistics of all the members of Amherst College from 1861 to 1860—making over 600 students—their average weight was found to be 139,485 pounds, and average height 5,651 feet.—Dr. Nathan Allen.

You may gather a rich harvest of knowledge by reading; but thought is the winnowing machine.

^{*}In fact there are many boys, more than one inexperienced in such points would easily believe, who if left to their own inclinations take no exercise at all, or take it so listlessly that the results are nil. Yet these are the very boys that need exercise the most of all, and their reluctance to enter upon it, and feebleness and awkwardness in pursuing it, is the strongest proof of their great need of it, the strongest proof that as boys they are not living boys' lives—and the boy's life leads to the man's.

OUR STUDIES IN PHYSIOLOGY.

THIRD STUDY.

THE heart, to which all the vessels in the body have now been directly or indirectly traced, is an organ, the size of which is usually roughly estimated as equal to that of the closed fist of the person to whom it belongs, and which has a broad end turned upward and backward, and rather to the right side, called its base; and a pointed end which is called its apex, turned downward and forward, and to the left side, so as to lie opposite the interval between the fifth and sixth ribs.

It is lodged between the lungs, nearer the front than the back wall of the chest, and is inclosed in a double bag—the pericardium. One-half of the double bag is closely adherent to the heart itself, forming a thin coat upon its outer surface. At the base of the heart, this half of the bag passes on to the great vessels which spring from or open into that organ; and becomes continuous with the other half, which loosely envelops the heart and the adherent half of the bag. Between the two layers of the pericardium there is a completely closed, narrow cavity, lined by an epithelium, and secreting into its interior a small quantity of clear fluid.

THE CAVITIES OF THE HEART.

Inside, the heart contains two great cavities, or divisions, as they have been termed above, completely separated by a fixed partition which extends from the base to the apex of the heart; and, consequently, having no direct communication with one another. Each of these two great cavities is further subdivided, not longitudinally, but transversely, by a movable partition. The cavity above the transverse partition, on each side, is called the auricle; the cavity below, the ventricle—right or left as the case may be.

Each of the four cavities has the same capacity, and is capable of containing from four to six cubic inches of water. The walls of the auricles are much thinner than those of the ventricles. The wall of the left ventricle is much thicker than that of the right ventricle; but no such difference is perceptible between the two auricles.

9. The ventricles have more work to do than the auricles, and the left ventricle more to do than the right. Hence the ventricles have more muscular substance than the auricles, and the left ventricle than the right; and it is this excess of muscular substance which gives rise to the excess of thickness observed in the left ventricle.

10. There are three partitions attached to the circumference of the right auriculo-ventricular aperture, and two to that of the left. Each is a broad, thin, but very tough and strong triangular fold of the endocardium, attached by its base, which joins on to its fellow, to the auriculo-ventricular fibrous ring; and hanging with its point downward into the ventricular cavity. On the right side there are, therefore, three of these broad, pointed membranes, whence the whole apparatus is called the tricuspid valve. On the left side there are but two, which, when detached from all their connections but the auriculo-ventricular ring, look something like a bishop's miter, and hence bear the name of the mitral valve.

The edges and apices of the valves are not completely free and loose. On the contrary, a number of fine, but strong, tendinous cords, called chords tendiness, connect them with some column-like elevations of the fleshy substance of the walls of the ventricle, which are termed columns carness.

It follows, from this arrangement, that the valves oppose no obstacle to the passage of fluid from the auricles to the ventricles; but if any should be forced the other way, it will at once get between the valve and the wall of the heart, and drive the valve backward and upward. Partly because they soon meet in the middle and oppose one another's action, and partly because the chordæ tendineæ hold their edges and prevent them from going back too far, the valves, thus forced back, give rise to the formation of a complete transverse partition between the ventricle and the auricle, through which no fluid can pass.

Where the aorta opens into the left ventricle and where the pulmonary artery opens into the right ventricle, another valvular apparatus is placed, consisting in each case of three pouch-like valves called the semilunar valves, which are similar to those of the veins. But as they are placed on the same level and meet in the middle line, they completely stop the passage when any fluid is forced along the artery toward the heart. On the other hand, these valves flap back and allow any fluid to pass

from the head into the artery, with the utmost readiness.

Thus the arrangement of the auriculo-ventricular valves is such, that any fluid contained in the chambers of the heart can be made to pass through the auriculo-ventricular apertures in only one direction; that is to say, from the auricles to the ventricles. On the other hand, the arrangements of the semilunar valves is such that the fluid contents of the ventricles pass easily into the aorta and pulmonary artery, while none can be made to travel the other way from the arterial trunks to the ventricles.

11. Like all other muscular tissues, the substance of the heart is contractile; but, unlike most muscles, the heart contains within itself a something which causes its different parts to contract in a definite succession and at regular intervals.

If the heart of a living animal be removed from the body, it will go on pulsating for a longer or shorter time, much as it did while in the body. And careful attention to these pulsations will show that they consist of: (1) A simultaneous contraction of the walls of both auricles. (2) Immediately following this, a simultaneous contraction of the walls of both ventricles. (3) Then comes a pause, or state of rest; after which the auricles and ventricles contract again in the same order as before, and their contractions are followed by the same pause as before.

The state of contraction of the ventricle or auricle is called its systole—the state of relaxation, during which it undergoes dilatation, its diastole.

It will now be easy to comprehend what must happen if, when the whole apparatus is full of blood, the first step in the pulsation of the heart occurs and the auricles contract.

THE CONTRACTION OF THE AURICLES.

12. By this action each auricle tends to squeeze the fluid which it contains out of itself in two directions—the one toward the great veins, the other toward the ventricles; and the direction which the blood, as a whole, will take, will depend upon the relative resistance offered to it in these two directions. Toward the great veins it is resisted by the mass of the blood contained in the veins. Toward the ventricles, on the contrary, there is no resistance worth mentioning, inasmuch as the valves are open, the walls of the ventricles, in their uncontracted state, are flaccid and easily distended, and the entire pressure of the arterial

blood is taken off by the semilunar valves which are necessarily closed.

Therefore, when the auricles contract, only a very little of the fluid which they contain will flow back into the veins, and the great proportion will pass into and distend the ventricles. As the ventricles fill and begin to resist further distension, the blood, getting behind the auriculo-ventricular valves, will push them toward one another, and almost shut them. The auricles now cease to contract, and immediately that their walls relax, fresh blood flows from the great veins and slowly distends them again.

CONTRACTION OF THE VENTRICLES.

But the moment the auricular systole is over, the ventricular systole begins. The walls of each ventricle contract vigorously, and the first effect of that contraction is to shut the auriculo-ventricular valves completely and to stop all egress toward the auricle. The pressure upon the valves becomes vary considerable, and they might even be driven upward, if it were not for the chorder tendiness which hold down their edges.

As the contraction continues and the capacities of the ventricles become diminished, the points of the wall of the heart to which the chorde tendines are attached approach the edges of the valves; and thus there is a tendency to allow of a slackening of these cords, which, if it really took place, might permit the edges of the valves to flap back and so destroy their utility. This tendency, however, is counteracted by the chordse tendinese being connected. not directly to the walls of the heart, but to those muscular pillars, the columnæ carneæ. which stand out from its substance. These muscular pillars shorten at the same time as the substance of the heart contracts; and thus, just so far as the contraction of the ventricles brings the columnæ carneæ nearer the valves, do they. by their own contraction, pull the chordse tendinese as tight as before.

By the means which have now been described the fluid in the ventricle is debarred from passing back into the auricle; the whole force of the contraction of the ventricular walls is therefore expended in overcoming the resistance presented by the semilunar valves. This resistance has several sources, being the result, partly, of the weight of the vertical column of blood which the valves support; partly, of the reaction of the distented elastic walls of the great arteries, and partly of the friction and inertia of the blood contained in the vessels.

It now becomes obvious why the ventricles

have so much more to do than the auricles, and why valves are needed between the auricles and ventricles, while none are wanted between the auricles and the veins.

WORK THE AURICLES DO.

All that the auricles have to do is to fill the ventricles, which offer no active resistance to that process. Hence, the thinness of the walls of the auricles, and hence the needlessness of any auriculo-venous valve, the resistance on the side of the ventricle being so insignificant that it gives way at once before the pressure of the blood in the veins.

WORK THE VENTRICLES DO.

On the other hand, the ventricles have to overcome a great resistance in order to force fluid into elastic tubes which are already full; and if there were no auriculo-ventricular valves, the fluid in the ventricles would meet with less obstacle in pushing its way backward into the auricles and thence into the veins, than in separating the semilunar valves. Hence the necessity, firstly, of the auriculo-ventricular valves; and, secondly, of the thickness and strength of the walls of the ventricles. And since the aorts, systemic arteries, capillaries, and veins form a much larger system of tubes, containing more fluid and offering more resistance than the pulmonary arteries, capillaries, and veins, it follows that the left ventricle needs a thicker muscular wall than the right.

13. Thus, at every systole of the auricles, the ventricles are filled and the auricles emptied, the latter being slowly refilled by the pressure of the fluid in the great veins, which is amply sufficient to overcome the passive resistance of their relaxed walls. And at every systole of the ventricles, the arterial systems of the body and lungs receive the contents of these ventricles, and the nearly emptied ventricles remain ready to be refilled by the auricles.

WHAT HAPPENS IN THE ARTERIES.

We must now consider what happens in the arteries. When the contents of the ventricles are suddenly forced into these tubes (which, it must be recollected, are already full), a shock is given to the entire mass of fluid which they contain. This shock is propagated almost instantaneously throughout the fluid, becoming fainter and fainter in proportion to the increase of the mass of the blood in the capillaries, until it finally ceases to be discernible.

If the vessels were tubes of a rigid material, like gas-pipes, the fluid which the arteries contain would be transported forward as far as this impulse was competent to carry it, at the same instant as the shock, throughout their whole extent. And, as the arteries open into the capillaries, the capillaries into the veins, and these into the heart, a quantity of fluid exactly equal to that driven out of the ventricles would be returned to the auricles, almost at the same moment that the ventricles contract.

However, the vessels are not rigid, but, on the contrary, very yielding tubes; and the great arteries, as we have seen, have especially elastic walls. What happens, then, when the ventricular systole takes place is—firstly, the production of the general and sudden slight shock already mentioned; and, secondly, the dilatation of the great arteries by the pressure of the increased quantity of blood forced into them.

But, when the systole is over, the force stored up in the dilated arterial walls, in the shape of elastic tension, comes into play and exerts a pressure on the fluid—the first effect of which is to shut the semilunar valves; the second, to drive the fluid from the larger arteries along the smaller ones. These it dilates in the same fashion. The fluid then passing into the capillaries, the ejection of a corresponding quantity of fluid from them into the veins, and finally from the veins into the heart, is the ultimate result of the ventricular systole.

THE SOUNDS OF THE HEART.

14. If the ear be applied over the heart certain sounds are heard, which recur, with great regularity at intervals corresponding with those between every two beats. First comes a longish dull sound; then a short sharp sound; then a pause; then the long, then the sharp sound, then another pause; and so on. There are many different opinions as to the cause of the first sound, and perhaps physiologists are not yet at the bottom of the matter; but the second sound is, without doubt, caused by the sudden closure of the semilunar valves when the ventricular systole ends. That such is the case has been proved experimentally, by hooking back the semilunar valves in a living animal, when the second sound ceases at once.

THE PULSE.

15. If the finger be placed upon an artery, such as that at the wrist, what is termed the pulse will be felt; that is to say, the elastic artery dilates somewhat, at regular intervals, which answer to the beatings of the heart. The pulse which is felt by the finger, however, does not correspond precisely with the beat of the heart,

but takes place a little after it, and the interval is longer the greater the distance of the artery from the heart. The beat in the artery on the inner side of the ankle, for example, is a little later than the beat of the artery in the temple.

The reason for this is that the sense of touch by finger is only delicate enough to distinguish the dilatation of the artery by the wave of blood which is driven along it by the elastic reaction of the aorta, and is not competent to perceive the first shock caused by the systole. But if, instead of the fingers, very delicate levers be made to rest upon any two arteries, it will be found that the pulse really begins at the same time in both, the shock of the systole making itself felt all over the vascular system at once; and that it is only the actual fluid, which is propelled into the two arteries by the elastic reaction of the greater vessels, which takes longer to reach and distend the more distant branch.

A CUT ARTERY.

16. When an artery is cut, the outflow of the fluid which it contains is increased by jerks, the intervals of which correspond with the intervals of the beats of the heart. The cause of this is plainly the same as that of the pulse; the force which would be employed in distending the walls of the artery, were the latter entire, is spent in jerking the fluid out when the artery is cut.

WHY THE VEINS ARE PULSELESS.

17. Under ordinary circumstances, the pulse is no longer to be detected in the capillaries, or in the veins. This arises from several circumstances. One of them is that the capacity of the branches of an artery is greater than the capacity of its trunk, and the capacity of the capillaries, as a whole, is greater than that of all the small arteries rut together. Hence, supposing the capacity of the trunk to be ten, that of its branches fifty, and that of the capillaries into which these open one hundred, it is clear that a quantity of fluid thrown into the trunk, sufficient to dilate it by one-tenth, and to produce a very considerable and obvious effect, could not distend each branch by more than one-fiftieth, and each capillary by one-hundredth of its volume, an effect which might be quite impercepti-

18. Again, the flow of the fluid is retarded by the subdivision of the tubes which contain it; and the multitude of minute impulses into which the primary blow of the systole is subdivided in the small versels, become lost among these obstacles and fused into one general and steady pressure. This loss of the distinct effect of the heart's action may be likened to the result of pumping into a horse-trough. Where the water flows into the trough, the splashes and waves, caused by the intermitting fall of water from the pump, are very obvious; but the water will flow steadily and evenly from a tap, open at the other end of the trough.

RESISTANCE OF THE CAPILLARIES.

19. Finally, in consequence of the resistance to its passage, resulting from the extremely minute size and subdivision of the capillaries, the fluid, to a certain extent, accumulates in the arteries, and keeps their walls in a constant state of distension, which is maintained by each successive beat of the heart. In other words, one beat follows another before the effect of the first has ceased.

As the effect of each systole becomes diminished in the smaller vessels by the cause above mentioned, that of this constant pressure becomes more obvious, and gives rise to a steady passage of the fluid from the arteries toward the veins. In this way, in fact, the arteries perform the same functions as the air reservoir of a fire-engine, which converts the jerking impulse given by the pumps into the steady flow of the delivery hose.

THE VENA PORTÆ.

20. But the blood brought to the capillaries of the stomach and intestines, spleen and pancreas, is gathered into veins which unite into a single trunk—the vena portæ. The vena portæ distributes its blood to the liver, mingling with that supplied to the capillaries of the same organ by the hepatic artery. From these capillaries it is conveyed by small veins, which unite into a large trunk—the hepatic vein, which unite hepatic trunk—the hepatic vein, which opens into the inferior vena cava. The flow of the blood from the abdominal viscera, through the liver, to the hepatic vein is called the portal circulation.

THE CORONARY ARTERIES.

The heart itself is supplied with blood by the two coronary arteries which spring from the root of the aorta just above two of the semilunar valves. The blood from the capillaries of the heart is carried back by the coronary vein, not to either vena cava, but to the right auricle. The opening of the coronary vein is protected by a valve, so as to prevent the right auricle from driving the venous blood which it contains back into the vessels of the heart.

21. Thus the shortest possible course which any particles of the blood can take in order to pass from one side of the heart to the other, is to

leave the aorta by one of the coronary arteries, and return to the right auricle of the coronary vein. And in order to pass through the greatest possible number of capillaries and return to the point from which it started, a particle of blood must leave the heart by the aorta and traverse the arteries which supply the alimentary canal, spleen, and pancreas. It then enters, firstly, the capillaries of these organs; secondly, the capillaries of the liver; and, thirdly, after passing through the right side of the heart, the capillaries of the lungs, from which it returns to the left side and eventually to the aorta.

INPLUENCE OF THE NERVES ON THE CIRCULATION.

22. It has been shown above that the small arteries and veins may be directly affected by the nervous system, which controls the state of contraction of their muscular walls, and so regulates their caliber. The effect of this power of the nervous system is to give it a certain control over the circulation in particular spots, and to produce such a state of affairs that, although the heart and the general condition of the vessels remain the same, the state of the circulation may be very different in different localities

BLUSHING.

Blushing is a purely local modification of the circulation of this kind, and it will be instructive to consider how a blush is brought about. An emotion—sometimes pleasurable, sometimes painful—takes possession of the mind; thereupon a hot flush is felt, the skin grows red, and according to the intensity of the emotion these changes are confined to the cheeks only, or extend to the roots of the hair, or all over.

What is the cause of these changes? The blood is a red and a hot fluid; the skin reddens and grows hot, because the vessels contain an increased quantity of this red and hot fluid; and its vessels contain more, because the small arteries suddenly dilate, the natural moderate contraction of their muscles being superseded by a state of relaxation. In other words, the action of the nerves which cause this muscular contraction is suspended.

A PALE SKIN.

On the other hand, in many people, extreme terror causes the skin to grow cold, and the face to appear pale and pinched. Under these circumstances, in fact, the supply of blood to the skin is greatly diminished, in consequence of an excessive stimulation of the nerves of the small arteries, which causes them to contract and so

to cut off the supply of blood more or less completely.

MAKING ANIMALS BLUSH.

23. That this is the real state of the case may be proved experimentally upon rabbits. These animals, it is true, do not blush naturally, but they may be made to blush artificially. If, in a rabbit, the sympathetic nerve which sends branches to the vessels of the head is cut, the ear of the rabbit, which is covered by so delicate an integument that the changes in its vessels can be readily perceived, at once blushes. That is to say, the vessels dilate, fill with blood, and the ear becomes red and hot. The reason of this is, that when the sympathetic is cut, the nervous stimulus which is ordinarily sent along its branches is interrupted, and the muscles of the small vessels, which were slightly contracted, become altogether relaxed.

And now it is quite possible to produce pallor and cold in the rabbit's ear. To do this it is only necessary to irritate the cut end of the sympathetic which remains connected with the vessels. The nerve then becomes excited, so that the muscular fibers of the vessels are thrown into a violent state of contraction, which diminishes their caliber so much that the blood can hardly make its way through them. Consequently, the ear becomes pale and cold.

24. The practical importance of this local control exerted by the nervous system is immense. When exposure to cold gives a man catarrh, or inflammation of the lungs, or diarrhea, or some still more serious affection of the abdominal viscera, the disease is brought about through the nervous system. The impression made by the cold on the skin is conveyed to the nervous centers, and so influences the vaso-motar nerves (as the nerves which govern the walls of the vessels are called) of the organ affected as to cause their partial paralysis, and produce that vessels) which so commonly ends in inflammation.

25. Is the heart, in like manner, under the control of the central nervous system?

As we all know, it is not under the direct influence of the will, but every one is no less familiar with the fact that the actions of the heart are wonderfully affected by all forms of emotion. Men and women often faint, and have sometimes been killed by sudden and violent joy and sorrow; and when they faint or die in this way, they do so because the perturbation of the brain gives rise to a something which arrests the heart as dead as you stop a stop-

watch with a spring. On the other hand, other emotions cause that extreme rapidity and violence of action which we call palpitation.

ARREST OF THE HEART'S ACTION.

It is quite certain that the influence which arrests the heart's action is supplied by the pneumogastric. This may be demonstrated in animals, such as frogs, with great ease.

26. If a frog be pithed, or its brain destroyed, so as to obliterate all sensibility, the animal will continue to live, and its circulation will go on perfectly well for an indefinite period. The body may be laid open without causing pain or other disturbance, and then the heart will be observed beating with great regularity. It is possible to make the heart move a long index backward and forward, like the inverted pendulum which musicians term a mentronome; and if frog and index are covered with a glass shade, the air under which is kept moist, the index will vibrate with great steadiness for a couple of days.

It is easy to adjust to a frog thus prepared a contrivance by which electrical shocks may be sent through the pneumogastric nerves, so as to irritate them. The moment this is done the index stops dead, and the heart will be found quiescent, with relaxed and distended walls. After a little time the influence of the pneumogastric passes off, the heart recommences its work as vigorously as before, and the index vibrates through the same arc as formerly. With careful management, this experiment may be repeated very many times; and after every arrest by the irritation of the pneumogastric, the heart resumes its work.

EVIDENCE THAT THE BLOOD CIRCULATES.

27. The evidence that the blood circulates in man, although perfectly conclusive, is almost all indirect. But certain of the lower animals, the whole or parts of the body of which are transparent, readily afford direct proof of the circulation, the blood visibly rushing from the arteries into the capillaries, and from the capillaries into the veins, so long as the animal is alive and its heart is at work. The animal in which the circulation can be most conveniently observed is the frog. The web between its toes is very transparent, and the particles suspended in its blood are so large that they can be readily seen as they slip swiftly along with the stream of blood, when the toes are fastened out, and the intervening web is examined under even a low magnifying power.

Note.—Our Studies in Physiology are condensed from Prof. T. H. Huxley's English works, not published here.

Declining Years.—We say "declining years; " but, if Heaven be our true center, the decline of our twofold being is contemporaneous with its ascent. Soul and body are in almost perpetual contradiction. In the falling of nature, it is not merely destruction which is hastening on, but liberty and glory—the perfection of a soul which grows ever more radiant as the spiritual principle absorbs all others. As the body sinks into decrepitude, the soul is tempered; and by the simultaneous acceleration of these two processes, the frame returns to dust and the spirit to heaven. Death for the one is immortal youth for the other. David was old when he called upon the God of his youth; but it was not the God of his past whom he invoked, any more than the God of Jacob is God of the dead. It was the God of the present to whom I avid appealed—the God of that youth which felt flourishing and blossoming in the depths of his being. For if the children of light enjoy day in the midst of night, the children of immortality keep their youth amid the snows of age.—Ex.

WHAT MUSIC DOES TO MAN.-What music does to you, depends upon what you are yourself-how musical your life has been, how simple and pure, and free from vulgarity and baseness. No circumstances are so gross, no neighbors are so cold as entirely to prevent the workings of association. Bayard Taylor tells a story that was repeated to him hy Dr. Kane. That voyager one day noticed that the men of his crew were clustered together in the forecastle around one of their number who was reading something aloud. Approaching, he saw the tears coursing down those cheeks shaggy with the Arctic winter. Coming still nearer he heard the words of Tennyson's song-

"Break, break, hreak,
On thy cold gray stones, O Sea."

—John Weiss.

An invalid son of Bacchus was about to undergo an operation for dropsy at the hands of his physicians. "O father, father screamed a son of the patient, who was looking on, "do any thing else, but don't let them tap you." "But, Sammy," said the father, "it will do me good, and I shall live many a year after to make you happy." "No, father, you won't. There was never any thing tapped in our house that lasted longer than a week."

EDITORIAL DEPARTMENT.



NEW YORK, MARCH, 1870.

WATER.

"To the days of the aged it addeth length; To the might of the strong it addeth strength; It freshens the heart, it brightens the sight; 'Tis like quaffing a goblet of morning light.'

THE PUBLISHERS do not hold themselves as indorsing every article which may appear in THE HERALD.
They will allow the largest liberty of expression, believing that by so doing this magazine will prove to be more useful and acceptable to its patrons.

Exchanges are at liberty to copy from this magazine by giving due credit to The Herald of Health and Journal of Physical Culture.

TOPICS OF THE MONTH.

BY M. L. HOLBROOK, M. D., EDITOR.

PROGRESS IN MICHIGAN UNIVERSITY.—
The peculiar and deep interest which all our citizens feel in the University whose name we have placed at the head of this article, is derived from the fact that, while it is the largest institution of the kind on the American continent, it is also the one which is the most democratic, and feels the most immediately every pulsation of the popular will. Its eight Regents are chosen by direct vote of the people of Michigan. It is as purely a representative organization as is the State Legislature. The other great literary establishments of the country, like Harvard, Yale, and Princeton, are close corporations. Their boards of management are con-

within themselves. Their endowments—which are the sinews of culture as well as of war—are accumulations chiefly of private benevolence. In many very important senses they are independent of the people; they can defy legislatures, political cliques, and even public opinion. We do not mean that they can do it for a much longer time than can an institution whose rulers are the immediate office, and of the popular choice, and which still looks to popular favor for a needed portion of its annual income.

It is for this reason, mainly, that the mass of the people are inclined to look upon the great University of the interior as peculiarly their own. A great gulf is fixed between them and the old close corporations of learning. Whether justly or not, they are apt to feel themselves repelled by these corporations, as forming an intellectual aristocracy.

It is one of the logical results of this state of facts, that the newspapers of the country—which are but the mouth-pieces of popular thought and emotion—should be constantly referring to the great popular University, and should chronicle its doings as a part of the history of the time.

Since the opening of the new year two events have occurred at Ann Arbor, which have attracted very general comment in the public press; one of these is the emancipation of the University from the casta of sex, and the other is an elaborate report on a Department of Hygiene and Physical Culture—this report having been submitted to the Regents by our contributor, Professor Moses Coit Tyler. Both these events are tokens of progress.

With regard to the admission of women to all the University privileges—literary, legal, medical, it must be gratifying to the responsible friends of the institution to notice how almost unanimous is the approbation which that noble

and brave decree has evoked from the most enlightened organs of opinion throughout the whole country. Had it been otherwise, had this act of simple fair-play been received by universal howls instead of universal huzzas, it would not have shaken our confidence in its rightfulness and expediency. As it is, the great University has crowned itself, not only with justice, but with praise. Instead of lowering its standing to the obscurity of certain petty "mixed colleges," as some weak souls have feared it would do, it has only raised its standing to the elevation of the illustrious Universities of Paris, Edinburg, and Zurich, and to the superb and towering hight of the Future! Gentlemen of the Board of Regents, you have done well! You have brought nearer the Golden Age! You have smitten, with valiant stroke, the foes of true Science, of true Justice, of true Civilization! You have set a benign and fruitful example! You have linked the fortunes of your University with the unconquerable might of Progress; while the stars in their courses will be fighting on your side!

It is on account of our intense sympathy with this action at the University of Michigan that we are drawn to suggest to the Regents one word of warning. They will have no difficulty in protecting their female students in the Collegiate department; for the College students who have already entered are gentlemen. They will have no difficulty in protecting their female students in the Law department, for the Law students who have already entered are gentlemen. But they will have difficulty in protecting their female students in the Medical department; for, unless the male students who shall enter the medical department next fall differ essentially from male medical students with whom we are too familiar here in New York and in Philadelphia-the word gentlemen can be applied to them only by putting a strain upon the English language which it can hardly bear.

Let us not be misunderstood. These male individuals, who become students of medicine, probably have courteous instincts and are civilised beings, in all other relations of life, ex-

cept in those growing out of their professional studies; but in the prosecution of those studies they pass into a dense, penetrating, poisoned atmosphere of professional traditions, so rank, so deadly, as to destroy in all except a few superior natures, liberality of feeling, common sense, and gentlemanly sense also. The very persons who may have been gentlemen before they entered this atmosphere, and who may possibly become gentlemen again when they get out of it, will, while herded together under the intoxication of professional maxims at the medical school, so strip themselves of civility and common decency as to compel us to name them brutes-were we not restrained from applying that epithet to them by some respect for our four-footed fellow creatures. Consider the insolence, the obscene and infamous barbarity, with which refined and noble-minded ladies have been treated in medical schools of New York and Philadelphia during the past winter, by medical students and constructively by medical professors! To call these persons animals is such an unkindness to the latter as would justify the expostulations of Mr. Bergh.

Therefore, from our experience at the East, we warm our friends at the West of what they are to expect; unless by wise and bold legislation they meet the difficulty in advance. The reputation and the advantages of the medical department of Michigan University are such as will attract many female students. It would not surprise us to hear that at least twenty should go there next fall.

To be forewarned ought to mean to be forearmed. May it be so in this instance. A timid, drifting, procrastinating policy will not meet the case. In our Eastern colleges, the men who could check by a glance of the eye, by the lifting of a finger, all this amazing savagery on the part of the students, are the Professors! It is their silent, gratified, well-understood connivance that sustains these crowds of scientific rowdies in conduct which would disgrace a parliament of hyenas.

Concerning the report on a Department of Hygiene and Physical Culture, we have left ourselves no room to speak in this article. That subject must go over to the next number. Fortunately, it is one of those subjects which will keep.

OZONE AND ITS RELATION TO HUMAN HEALTH.-Dr. Draper, in his recent interesting lecture on Air and Respiration before the American Institute, spoke of ozone as possessing properties similar to oxygen, indeed a modified form of this element possessing the power of uniting with many substances at the ordinary temperatures of the air, while oxygen, as we have seen, requires the heat to be raised to the point of ignition. Its presence is determined by its action upon paper that has been dipped in an aqueous solution of starch and iodide of potassium. This it turns from a white to a blue or brown color, according as it is more or less con-Owing to its active oxidizing centrated. power, ozone is a valuable disinfectant, since it can decompose noxious gases and vapors, converting them into harmless bodies, and there is good reason for supposing that the purity of the air after a thunder storm is in part owing to the conversion of a portion of its oxygen into ozone, and the consequent removal of the offensive ingredients.

It has been stated that some epidemics, of which cholera is an example, reach their point of greatest malignancy when ozone has disappeared from the air, and that the decline of the epidemic and its disappearance are marked by the reappearance of ozone. In rural districts it is nearly always present, while in the interior of large cities it is almost as uniformly absent, owing to the fact that it has been consumed in destroying the emanations that prevail in these localities. Since ozone is very irritating to the respiratory organs, it has been suggested that the sudden appearance of diseases of the airpassages is in all probability due to the occurrence of a wind highly charged with this gas. It certainly is a plausible explanation of the manner in which inflammation will in a single night attack half the inhabitants of a locality.

It is a well-ascertained and indubitable fact

that under the influence of sunlight, green plants decompose carbonic acid and set oxygen gas free. This is generally regarded as a direct action of the light, but experiments have shown that if the gas dissolved in water is carefully removed before the plant is introduced, even though carbonic acid is supplied in sufficient quantity, the plant can not decompose it in the light until the water is again charged with air. There is, therefore, some probability that the decomposition of carbonic acid by plants is not a direct but an indirect action, accomplished through the agency of ozone. Whether this is true or not, it at least affords a highly interesting and instructive field of inquiry that promises a rich reward to those who elect to reap there-

Insanity:—This growing, terrible calamity is and must be a source of anxiety to every well-wisher of his kind, and we are glad to reproduce the humane suggestions of Governor Hoffman upon this subject:

"I earnestly call your attention to the necessity of additional legislation for the benefit of the insane poor throughout the State. Their condition in the county poorhouses is deplorable. None are so helpless; none, for the most part, so friendless. They are often abandoned by their relatives, who, whatever their inclination, have not the means of giving them the care they need. No provision suitable to their condition and their wants can be made on a small scale. They require, generally, the discipline and the treatment which can be had only in large, well-organized institutions, under the charge of men who have made this painful form of disease a special duty. It is impracticable for each county to provide properly for the few sufferers of this class who are found within its limits. Their presence in the county poorhouses is, from the inadequate care that can there be bestowed upon them, and from the cruel restraint which is often of necessity resorted to, demoralizing to the neighborhood. Interest, duty, and charity demand that further provision be made at once for this unfortunate class. The State should provide asylums, with room for the poor thus afflicted who can not be taken care of otherwise."

This is well and kindly said, but the evil will increase upon the public, till men are trained to more rational views of life, its end and aims; till they learn the best method of preserving health, and better understand and practice the immutable laws of truth which underlie all our moral and social obligations. There is no wrong committed which does not involve its penalty, and this penalty, if confined to the wrong-doer himself, might be only a wholesome retribution, but it is apt to descend in a widening circle bringing poverty, insanity, and death upon the innocent and helpless progeny.

THE LABORING FORCE OF THE HEART .-A physiologist (S. Haughton), has recently made a calculation concerning the laboring force of the human heart, which contains several interesting statements. He assumes—what can not be very far from the truth-that at each pulsation of this organ three ounces of blood are propelled from each ventricle; that the hydrostatic pressure against which the blood is forced from the left ventricle, is equal to a column of blood nine and nine-tenth feet high. Hence, each beat requires force enough to send three ounces of blood to this hight. Allowing seventy-five beats for each minute, the number of pulsations in one day would be 107,000, and this, multiplied by three, would give 321,000 for the number of ounces pushed in one day to the hight of ten feet. Dividing this by sixteen, to reduce it to pounds, we have 20,250 pounds, ten and one-tenth tons lifted nearly ten feet high. This is but the work of the left ventricle, and our physiologist adds five-thirteenths of this quantity to it as the amount of work done by the right ventricle in forcing the blood to the lungs. Now, the amount of labor which can be accomplished by an average working man in one day of ten hours, has been pretty accurately estimated as equal to lifting to the hight of ten feet thirty-five tons, which is only about three and one-half times as much as the heart is called

on to do in twenty-four hours. We would like to have the readers of THE HERALD OF HEALTH pause here for a moment and think. The heart is a muscular organ about the size of the fist of its owner. It works night and day, year in and out, for a whole lifetime. Apparently it never It can lift nearly one-third as much blood in a day as its owner can lift in the same space of time, for we must remember that while the man works but ten hours and then must take rest, the heart goes on continually. A pound of heart-muscle does in each second a quarter more work than a pound of any other muscle of the body. And taking into consideration the time allotted to rest for the muscles, which the heart does not require, the difference is very much greater.

Our physiologist, however, carries his calculations still farther. He tells us that if the heart were to spend all of its energy in lifting itself up, it would in one hour reach an attitude of 19,754 feet. A man in climbing a mountain can lift himself about 1,000 feet in an hour, which is but a trifle more than one-twentieth of the hight the heart would attain in the same time.

In that very wonderful railway that crosses the Alps, the greatest hight that has been attained in an hour by any locomotive has been 2,700 feet, showing only one-seventh of the working force of the human heart. papers now being published in this monthly, entitled "Studies in Physiology," the structure and workings of this organ are minutely described, and we refer our readers there for We can not help adding, that the heart as a mechanical force far excels any thing of which we know. Its daily power is one-third as great as the power of all the muscles of the body combined. It has twenty times the force of the body expended in climbing a mountain, and eight times the force of the best steamengine yet invented, in lifting its own weight over the Alps. With this knowledge, how important an organ does it become to us, and how necessary that it never be over-taxed or injuriously treated.

Seeep Alone.—A young subaltern had occasion to visit the Duke of Wellington, surrounded as he was by all the appliances of wealth and luxury, and covered with military and civic decorations. In the midst of all this splendor he beheld a small iron camp bedstead.

"I suppose that is preserved in memory of former service," said the young man.

"By no means," replied the Duke, "I sleep every night upon it."

"I should not think a man could turn over on such a narrow bed."

"Young man," was the reply, "when a man turns over it is time to turn out."

This hint from the experience of the "Iron Duke," is of great value in a hygienic point of view. We give what we consider the ideal of practice, reaching it ourselves as best we may, and leaving others to their best endeavor to do likewise; and thus we say, no two persons ought ever to sleep together.

The practice is neither wholesome nor handsome in a moral point of view, and in the matter of health is manifestly injurious. If the two are in high health, it is unwise to encounter the exhalations each from the other. If one is diseased, the other will surely suffer from the secretion of poisonous effluvia. If both are diseased, the poison is but intensified.

The decencies of marriage are better sustained by sleeping apart, and thus preserving the thousand and one refinements, the delicate personalities, and the exclusiveness, which go so far in retaining the sentiment of purity, modesty, and elevation so essential in a relation at once sacred, ennobling, and intimate, like that of marriage. We believe this relation would oftener prove happy than it now does, but for this baneful practice of occupying the same bed. Mrs. Oakes Smith has said that "the married ought to dream together," but it is certain that sleep and dreams often drive a couple very far apart. The physical affinities may be greatly at fault, and create disorder, when, perhaps, the mental and affectional between the parties may be constant and harmonious. It is always refined to cast all the possible experiences of the

external life into the background. No one cares to be reminded that certain parties may sleep together, the very intimacy of the relation demands the greater modesty.

The stolen kiss of two lovers is not offensive to even a third party, while that of friendliness does not even create comment; the kisses of married people, on the contrary, are apt to revolt the observer as familiar and undignified. A Roman Senator stabbed another for presuming to kiss his wife in his presence, and all conjugal dalliance is, and of right should be, offensive to a looker on.

It would be an elegant arrangement to furnish our chambers with couches or lounges, of no greater width than is handsome for ordinary use, which at night, by the aid of linen, blankets, and pillows could be made all that is requisite for sleeping purposes; the coverings in this case would be more likely to be well ventilated.

We believe that much that is bad and corrupting, much that has tended to bring marriage into disrepute, may be traced to a lack of dignity not to say modesty on the part of married people, who by sleeping together as it were in public, by a lack of reserve, and an unwillingness to encounter parental responsibilities, have made that profane which God designed to be holy.

MONSTERS IN THE SCHOOL-ROOM. - An account has recently been given of a schoolteacher in Manchester, Conn., who punished a little school-girl for failing to learn a lesson in geography, by compelling her to stand still on the floor seven hours without change or rest. The child, though a healthy one, as a result of this barbarism, sickened and died. The case is one too sad for thinking of without feelings of horror at so cold-blooded an act. It has not been our duty to chronicle a case of the murder of an innocent so clear and marked as this for many a day. How a school committee could call it a case of error of judgment, and nothing more, is more than we can understand. It was an act of barbarous cruelty, which resulted in murder. Seven hours is a long time for any human being

to stand still in a school-room, exposed to a draft of cold air; but for a child, it is a thing impossible without most serious injury. A teacher whose heart could endure the sight must have been a monster. There is altogether too much cruelty in the school-room, which ought to be prevented by those who have children to educate. The dear little ones that do so much to soften our lives and make them tender and sweet, demand our tenderest thoughts, our most watchful care. None should be allowed to have the charge of children who can not make their lives happy, and love as well as instruct them.

LETTER FROM GEORGE TRASK.—FITCH-BURG, Mass.—To the Editor of The Herald of Health—Dear Sir: The following I shall soon stereotype and publish, as part of a tract. If you would previously publish it in your columns, I will thank you:

- "DEAR SIR: Clergymen and others ask why I have devoted myself to the Anti-Tobacco Cause twenty years? This inquiry deserves an answer.
- 1. I was myself a user of tobacco. I gave it up; and as it formed an ERA in my life, like a young convert, I joyfully proclaimed it to my fellow-men.
- 2. My preaching was blessed of God. Many clergymen and many laymen relinquished the habit; and young men and boys, in large numbers, signed the pledge against tobacco and strong drink.
- 3. In the course of investigation, I soon saw that tobacco was injuring the piety of Church members, rendering some irritable and others stupid, and tending to destroy all aspirations for sanctification and the 'higher life.'
- 4. I became convinced that tobacco is an IDOL, assuming the place of God—as really an idol as Baal or Juggernaut, and that our young men, while worshiping it, can no more be saved than while worshiping God and mammon.
- 5. In looking over churches I saw that backsliders were tobacco-users, and I came to the conclusion that tobacco had much to do with

their apostacy. This is confirmed by mournful facts.

- 6. On farther investigation I found that many devotees of tobacco are in a narcotized or abnormal state. Their moral sensibilities are not only stupefied, but the glorious attribute of free will is paralyzed, and their power to choose good well-nigh destroyed.
- 7. I found that when men relinquished tobacco it paved the way to relinquish other destructive habits, and this to a resurrection of the whole moral man, and this to a determination to be right with God and to 'lay hold on eternal life.'
- 8. Conferring with missionaries in this and other lands, I found the evil as broad as the world; that the Chinese and Turks are intoxicated and narcotized not only by opium, but by tobacco, and while in this state their conversion is about as hopeful as that of dead men in the catacombs of Rome.

These are my reasons for sacrificing myself to this despised cause. Other men may denounce the habit as filthy, expensive, and unhealthy. I take higher ground. I maintain that it mars the image of God in good men, hinders the conversion of sinners about us, and the conversion of the world.

Great obstacles obstruct the Gospel. I am doing what I can to invoke attention to a mighty one, and to prepare the way of the Lord. My cause is unpopular—I am unpopular; but somebody must do unpopular work, or it will never be done.

Yours truly, GEORGE TRASK."

DANGER OF STIMULATION.—The advocates of total abstinence except for medicine ought to know that in all chronic diseases, especially of a nervous character, the invalid is much more certain to be injured by alcoholic pactication than where the disease is acute. In the former case the patient takes kindly to stimulants, but in the latter he almost always rebels against it. The pain and nervous depression which nervous invalids periodically suffer, should be overcome by building up the physical powers permanently, and not by the stupefaction of large doses of brandy. Some physicians think alcoholic stimulants can be safely given to children who are not self-conscious, and to old people who have led temperate lives, but that it should never be given to adults of middle age. The effect, however, is the same in either case, except in degree. The true course is to reject it altogether.

LETTER FROM A SUBSCRIBER OF 21 YEARS STANDING .- " To the Editor of The Herald of Health-Sin: In 1848 I was given up by two doctors as incurable, in the last stages of consumption. I had a severe cough and night sweats, and the doctors told me I could not live but a short time; and I believed them, and I made my will and arranged my business, and was patiently waiting God's time to depart and leave this world of affliction; and just at this time there was a book peddler came along, who had Joel Shew's Water-Cure Manual. I bought it, and I subscribed for The Water-Cure Journal. I read the Water-Cure Manual, and practiced the doctrine as well as I could, with my wife's help; and in January, 1849, I got The Water-Cure Journal, and I read it and continued to practice the doctrine taught therein; and I grew better, and by the May following I was well, and got Dr. Shew's Family Physician and The Hydropathic Encyclopædia, and I practiced the principles as taught in those works, with the Water-Cure Journal, which I have continued till it changed its name to THE HERALD OF HEALTH; and now what opinion do you think I have formed by studying these books, and reading your paper, in connection with God's word, not having been confined to my bed by sickness one day since 1840? Sirs, it is just this: If we live in obedience to God's laws, physical and moral, we will be physically and morally healthy; whatsoever we do, we are commanded to do all to the glory of God. Now if any doubt my position, just let him try it; let him glorify God in every thing he does, and if he is not healthy I think he will get healthy, if he is not too far gone by his violations of physical law. Permit me here to ask one question: How can we view God a just being, if we live in strict obedience to his laws, and by so doing glorify him in our spirits and bodies, which are his, and he afflicts us from the cradle to the grave? Until I get an answer to this question I shall think, if we live as God wants us to live we will be healthy. I have been getting stronger in this belief for many years. I am now in my seventieth year, and I doubt whether there is a healthier man, of my age, in the great State of Ohio. We are commanded to cleanse ourselves from all filthiness of the flesh and spirit, perfecting holiness in the fear of God. I often ask professors of religion, when I see them smoking a nasty, filthy pipe, or chewing the nasty, filthy weed, how they can do that to the glory of God, and they have all, to a man, failed to answer. Permit me to ask one question more before I close: If we are born with good constitutions, and raised as God intends we should be, and then when we become accountable we obey God, temporally and spiritually, that is, do just God's will, why won't we be healthy? and if not, whose fault is it?

You can do as you please with this. If any of your readers can show me that my position is not correct, I would like them to do so; it is for instruction I write.

Yours truly, A. MOREHOUSE."

Supply of Water in Ancient Rome.—
In old Rome there were nine acqueducts to supply, the city with water, and the amount furnished for each inhabitant could hardly have been less than three hundred gallons for each person daily, or more than six times as much as is supplied to each person in London at the present time. One of their acqueducts was fifty-four miles long, and one forty-two miles long. No modern city ever had such perfect arrangements for baths and perfect cleanliness as Rome.

The Roman sewers for carrying off the filth of the city were also most perfect. The main one, the cloaca maxima, had a series of small channels flowing into it from all parts of the city, and rendering her drainage most complete.

How to Treat the Sick.

FEEDING OF INFANTS. -- If the "maternal fountains" prove permanently inadequate, how shall we supply the deficiency, by spoon or bottle? If by the latter method, we have the difficulty of keeping clean, and the danger of breaking to substract from the convenience of laying baby and bottle aside, and leaving the attendant free. If we use cup and spoon, then an intelligent person is needed to feed slowly, and with care, lest the little one eat too fast and too much. Sipping from the spoon, they early learn to take from the cup slowly, and thus the great trial of weaning from the bottle is avoided. Some learn to feed much more easily than others, so the taste of the baby, and the convenience of the family, must help to decide this important point.

The wind colic, supposed to be induced by air "sucked in with the spoon," is owing rather to gas generated by indigestion.

Food improperly prepared, or given too frequently, or too much at a time, will disturb the stomach of these sensitive ones.

A common bottle, with a sponge of very fine grain for cork, makes a good baby-bottle, easily kept clean, but requires a hand to hold it, while one with a long rubber tube can be laid in the crib beside the baby.

Next, what shall we give those unfortunate little ones whose mothers are inadequate to their wants?

About wet-nurses we have nothing good to say, because so few good women serve in that capacity.

If we had a woman with a good body and a good spirit ready to serve thus, we might consider the matter favorably, but not otherwise.

On the trials of mothers and babies, when both are at the mercy of a bad woman, we will not dwell. We prefer to trust our babies to a good cow rather than a bad woman. The first is not hard to find and will usually serve the purpose, if intelligence, love, and leisure combine in the care of the child. I know many are afraid of cow's milk, because babies do not thrive in Foundling Hospitals and Orphan Asylums. To my mind they do not die so often for want of breast milk, nor for the milk of human kindness, as for lack of human love. There is a life-element which little ones draw from the eye, the arms, the heart of a real motherly woman, whether she is their own mother or not, which helps them to thrive. Without this they are half dead while they yet live, as you can see by their sad, soul-starved faces.

An intelligent, healthy, happy mother makes a paradise for infants, and the farther they drift from those belongings the nearer they come to purgatory for this world; so near, that the dear Lord lets many of them through to the better land.

But suppose they are not born to this blessed estate, what next? Get a good new milch cow (if the calf is near the age of the baby all the better). Avoid mixing or changing milk. Commence with one part milk to three parts water, for a week or two, gradually increasing the proportions of milk as the stomach will bear. If the baby looks blue and seems hungry too frequently, increase the quantity of milk. A small amount of white sugar, so small as to be merely perceptible to the taste, should be added.

If the bowels are torpid, use brown sugar, or, if necessary, molasses occasionally. If much of the latter is used, acidity of the stomach is likely to be the result. Should this not suffice, graham gruel may be used made thus: One tablospoonful of graham flour, wet with cold water and poured into one pint of boiling water. Boil twenty minutes, and stir while cooking. Add one pint of milk, but do not let it boil unless the

^{*}Extracted from Mrs. Dr. Gleason's new book, entitled "Talks to My Patients," now in press of Wood & Holbrook, 15 Laight Street, New York.

child has diarrhea. This keeps the bowels in a good condition, and the unbolted wheat supplies the bone and muscle-making material so important for delicate children.

TREATMENT OF CHEONIC INFLAMMATION OF THE STOMACH.—Take a sweat once a week at 10 o'clock, either by vapor or hot sitz bath, followed with cool sponging or spray, and rub dry. Foment stomach and bowels two or three times a week, at 10 A. M., or at bed-time, by wringing flannel cloths out of hot water, and apply, repeating every four minutes for the space of half an hour; it should be as hot as can be borne, then follow with cool linen compress for an hour, sponge off and rub dry. Take a cool sponge bath in the morning or dry hand-friction whichever may seem agreeable; when feverish, take a wet-sheet pack.

Drink, on rising and at bed-time, from half a pint to a pint of hot water, to dilute the acrid accumulation and induce absorption; take a hot foot bath at bed-time, if needed to keep the feet warm; wear a wet girdle every night and day-time, if it does not chill, change it three times daily. As the patient improves omit fomentations and substitute cool sitz baths for ten minutes, twice a week.

These baths must be regulated according to the strength and reactionary power of the patient.

For costiveness, use tepid-water enemas once a day in the morning.

In cases of diarrhea, use enemas of small quantities of cold water after each dejection, to be retained.

Never use cold water when it chills, nor hot water in the fever; the patient's feelings must be consulted and not forced into a bath when it is repugnant; better omit a bath than do harm. The object is to equalize the circulation and assist nature to throw off waste matter. Do not take a bath soon after eating.

When there is a severe cough; foment the chest at bed-time, and apply a cold wet compress through the night, keep the feet warm; if necessary, use jugs of hot water. Care and busi-

ness should be laid aside, and every thing that is annoying. A good Water-Cure is the best place, not only to get away from cares, but to have the advantages for treatment afforded by the institution.

REGIMEN.

The most important point in the management of chronic gastritis, is to regulate the patient's diet. While the most urgent inflammatory symptoms are present, give little else than gum-arabic water, rice water, barley water, or arrow root, and as there is improvement, use toast, gruel, graham mush, and sago, baked apples, potatoe, and sub-acid fruits; for bread, graham biscuits and dry graham rolls and crackers; as the inflammation subsides, the food should be rather dry and well chewed to call out the saliva. In extreme and obstinate acidity of the stomach, dry brown toast should be used alone for a few days. Sometimes graham bread and mush seem to sour sooner than other articles, and then it would be better to use fine-flour unleavened bread for a time, and sometimes a little beefsteak broiled will set better; in such cases, it might be used. I find that beef will not ferment as soon as many other kinds of food. It requires a great deal of skill and perseverance to manage an inflamed or congested stomach, and food should not be taken that is repugnant to the patient, neither should one kind of food be used too long, as the sameness in food will fail to call out a proper effort of the stomach. Not more than two or three articles of food should be used at one time, and an occasional fast will be of great value, to let the acid pass off and the stomach rest, with free drinking of hot water to dilute and induce absorption.

Patients should spend a good deal of time out-of-doors, breathing deeply and freely of pure air, and take as much exercise as can be borne without fatigue, walking, riding, etc. Retire early and take plenty of rest, be very regular in meals, in retiring and in every thing; eat nothing between meals, be careful of what and how you eat, but do not think of it afterward; engage in some amusement or do something that

will be pleasant to call the mind away from your stomach. Patients have a capricious appetite, are nervous, fidgety and changeable in mind; want help from somebody, some one to lean upon. But perseverance and faithfulness will bring restoration. The reward of health is the prize to those who "faint not."—Dr. H. McCall.

CURE OF NEURALGIA BY MAGNETISM. "Having been a great sufferer from neuralgia, I should be neglecting my duty if I did not make known how, under God's blessing, I have received so much relief. For twelve years I had been tormented with the neuralgic affection in the principal seats of the fifth nerve of the face. My condition was such that the slightest movement of the jaw, the least pressure on the chest, warm or cold fluids, would throw me into excruciating agony. I was compelled to take my food in a fluid state, and the slight effort required in swallowing this would cause a return of the pain. I had used all the appliances considered to be good in such cases, and taken an immense quantity of medicine, but without success, and have been under the most skillful physicians, who all agreed in pronouncing mine a hopeless case. Through my intense suffering my life become unbearable. I was recommended to try magnetism. I felt relief from the magnetizer's first attendance, and the paroxysms have now left me entirely—it seems like a miracle. I am convinced that the judi cious use of magnetism is a most powerful remedy for nervous complaints. My case is well known, and I should be happy to answer any inquiries.

I am, Sir, yours truly,

JOSEPH WALDEN."

SWALLOWING PINS.—Dr. McEvoy gives an account of a boy from whom he extracted a pin swallowed 14 months before. The boy was 13 years old, and the pin made its way through the walls of the stomach and formed an abscess over this organ, from which he extracted it by a surgical operation. Dr. A. Clark gives a case of a pin which he extracted from an abscess on

the back of a girl. She had swallowed it five years before. It had remained in her system for years without before producing disturbance.

HICCOUGH.—The scientific name of this trifling affection is singultus. It is caused by a sudden involuntary contraction of the diaphragm and the simultaneous contraction of the glottis. In low fevers it is a dangerous symptom, and in all cases indicates a morbid condition of the patient. It can usually be arrested by a sudden shock of fright, sufficient to attract attention; by sips of cold water, or by determined effort. It is more common with children than with adults, and can be prevented by avoiding the over-loading of the stomach with food composed largely of fine flour, grease, cakes, and other abominations of the table. A child brought up as it should be rarely has this morbid affection.

THE SWIMMER'S CRAMP—The cases of supposed cramp attending the sudden sinking of swimmers is explained by The Lancet, on the ground that the respiratory muscles must be the ones seized by the cramp, and in their action they force the air from the lungs so effectually that the body, which was before lighter than water, now becomes heavier, and consequently suddenly sinks below the surface. This journal recommends gymnastic culture of the respiratory muscles as the best preventive against the affection.

Delirium Tremens.—This disease is best treated by good nursing, magnetism, nourishing food, and avoidance of stimulants. The old practice of using largely of opiates is being gradually abandoned by the best physicians. Most important of all things is a pleasant, quiet room, and a healthy, agreeable, sensible nurse. If sleep does not come at once do not worry, for it will usually come in two or three days. The Turkish bath, where it can be applied, is an efficient help in equalizing the circulation and quieting the nerves.

ANSWERS TO CORRESPONDENTS.

BY A. L. WOOD, M. D.

Dyes, etc.—The following is an abstract of a report upon these subjects made to the Board of Health by the Superintendent, Dr. Elisha Harris, and published in The New York Tribune. Thousands are being injured, many fatally, by the use of these poisonous nostrums; and it is high time for the attention of the public to be called to the facts of the case:

"It is my duty to ask the attention of the / Board of Health to the unrestrained sale of poisonous solutions and preparations of lead under the names of Cosmetics, Bloom of Youth, etc. Circumstances that have recently occurred in connection with two very obscurely reported deaths, render it expedient for the Board to order a very thorough chemical investigation of this and all other common sources of lead poisoning. This duty was commenced early in the summer, and some results were reached, but the pressure of work has prevented the completion of the inquiries. But thus far every specimen analysed is found to contain lead. This confirms the fact, which was well known before to certain chemists who had investigated the matter.

But we now have opportunity to bring to the attention of the Board of Health several cases in which actual poisoning has occurred, in persons who used the popularly advertised nostrums here mentioned. The following note from Dr. Lewis A. Sayre, accompanied by reports of several cases of clearly proven lead poisoning by one of these fashionable lotions, is respectfully submitted to the Board:

December 23, 1869.

Dr. ELISHA HARRIS, Sanitary Superintendent of the Metropolitan District:

DEAR SIR: I send you a report of three cases of poisoning by the use of a cosmetic known by the name of "Laird's Bloom of Youth." It seems to me that the suppression of this dangerous cosmetic is a duty devolving on your Board, as much as that of any other poison.

Thousands are using it daily in ignorance of its composition, and I think its sale ought to be prohibited by the strong arm of the law. Very respectfully, your obedient servant,

(Bigmed)

LOUIS A. SAYRE,

This distinguished surgeon does not exagger

Lead Poisoning, Cosmetics, Hair | ate the danger that is experienced by all persons who apply this class of cosmetics to their faces or other parts of their body. The charge of poisoning seems to be too clearly made out against the particular nostrum mentioned by Dr. Sayre.

Recently a death from lead poisoning occurred in one of the city hotels. The gentleman was a merchant of some distinction He was killed by the daily use of a hair-wash that is believed to have contained large quantities of the acetate and carbonate of lead. Unfortunately we could not ascertain the name or any samples of the nostrum, and did not obtain the evidence until after death.

In view of the importance which attaches to the entire subject of lead poisoning, especially as respects the water we drink, the preserved foods in the marts, and the nostrums that are sold without restraint in the shops, I would respectfully ask the Board to take some action by which the sources of lead poisoning shall be fully reported upon; and, further, it seems plainly our duty publicly to warn against the use of any lotions and cosmetics which the Chemist of this Board proves by analysis to contain lead in any form; a list of which will be given to the Board as the work of chemical analysis progresses. It would appear to be entirely justifiable and dutiful to prohibit the sale of these nostrums, if the Board has the power to enforce such prohibition, as some useful lives are being lost and a vast amount of neuralgic and palsied misery is being produced by such poisoning. Even the Croton water needs to be conducted through iron or tinned pipes in our dwellings in order to give entire immunity against the slowly-acting effects of the minute quantities of lead that are borne along to our apartments by the common lead tubing now in

Liniments.-"Do you approve the use of liniments to relieve pain and in cases of bruises, rheumatic affection, etc.? They often seem to produce good results. Is there any objection to their use, and if so, what?

I do not approve the use of liniments in any case. Not but that good results follow their use, for such is often the case, but because, 1:

their use weakens the skin, and many of them are poisonous and being absorbed into the system poison it; and, 2. their use tends to keep up the faith of the people in drugs, and thus prevent the application of more efficient remedies. The benefit following the application of liniments is due principally to the rubbing which accompanies it, and which is very useful. Thus, the rubbing does the work and the liniment gets the credit of it. Heat is by far the most efficient agent for the relief of pain and soreness. It is cheap, easily obtainable everywhere, readily applied, and, when rightly applied, incapable of harm. It can usually be best applied locally, by means of flannel cloths wrung out of hot water, or by bottles filled with hot water. It is best applied generally by means of hot air, vapor, or hot water, by immersing the body in them.

Constipation, How Cured.—"My bowels are constipated nearly all the time, have been so for ten years. I was recommended to use the tepid water enema, say about seventy degrees, which I have been doing for a long time, and avoid the use of cathartics. I find I can not get along without the daily enema. Can there be any injurious effect arise from its constant use?"

The water enema is very useful—in many cases indispensable, but it should only be used temporarily, until a natural action can be brought about by other means. Strict attention to diet is indispensable in such a case as this. Fruit should form a large part of each meal, and the balance be mostly or wholly made up of graham bread, oat meal, cracked wheat, and vegetables. Fine flour bread or cakes, milk, fat, condiments, etc., should be avoided. Plenty of out-door exercise is especially desirable. Daily kneading and manipulation of the bowels will prove very useful in restoring their natural action. If you do not already do so, learn to breathe by expanding and contracting the abdomen. This is the natural mode of breathing, and keeps the digestive organs in constant motion. If you wear corsets, or dress so tight you can not do this, burn up your corsets and loosen your bands, or give up all hopes of ever being cured. Unless you learn to breathe naturally, whatever else you may do will probably prove unavailing. Breathe in the way indicated, and persevere in the course above marked out, and a cure is certain. In case the water enema should ever fail in giving temporary relief, employ thorough kneading of the bowels and the hot fomentation.

Don't be Afraid of Pure Cold Air. -Don't be afraid to go out of doors because it is a little colder than usual. The cold air will not hurt you if you are properly protected, and exercise enough to keep the circulation active. On the contrary, it will do you good; it will purify your blood, it will strengthen your lungs, it will improve your digestion, it will afford a natural, healthful stimulus to your torpid circulation, and strengthen and energize your whole system. The injury which often results from going into a cold atmosphere is occasioned by a lack of protection to some part of the body, exposure to strong drafts, or from breathing through the mouth. Avoid these, and you are safe.

Don't be afraid to sleep in a cold room at night with the window open. Cold air, if pure will not hurt you at night any more than in the day, if you are protected by sufficient clothing and by breathing through the nostrils. If you do not breathe thus, acquire the habit as soon as possible.

If you wish to be subject to colds, coughs, and fevers, shut yourself in close, hot rooms day and night. If you wish to be free from their companionship, always have plenty of pure air to breathe, night and day, take daily outdoor exercise regardless of the weather, except as to protection, and eat, drink, and bathe, as a Christian should.

How to Warm Cold Feet.-An excellent mode of warming cold feet by exercise, which is the true way of warming them, is by means of an ordinary iron dumb-bell, the balls of which are from four to six inches in diameter, or a cylinder of heavy wood some six inches in diameter and a foot and a half long, may be used. The bell or cylinder is placed upon a smooth floor and the patient, with slippers or shoes on, steps upon it and rolls it along backward and forward, balancing at first with a rod, or by taking hold of another person's hand or other support. A little practice will enable him to balance himself and move along easily, without assistance. All who are troubled with cold feet, and are strong enough, should try it.

THE LAST PLAGUE.—The last plague in Europe was in 1719, and destroyed ninety thousand persons. It was introduced into Marseilles by an infected ship, which had been refused admittance into Sardima, because the King scemed to understand the nature and consequences of the disease on board. It is a notable instance of the value of knowledge and precaution.

NOTICES OF NEW PUBLICATIONS.

THE VOICES. By Warren Sumner Barlow.
Second Edition. Boston: William White & Co.,
Banner of Light Office, 158 Washington Street. New
York: American News Co., Agents, 119 Nassau Street.
1870.

This is a book of poems consisting of three parts, or rather three poems. The first, entitled "Voice of Superstition," is the delineation of an imaginary conflict supposed to have been waged between the God of the Bible and Satan, and goes to show that Satan was uniformly victorious from Eden to Calvary. Much of the argument and criticism of this part is valid, as against a scheme of theology which is based upon the assumption that such a conflict has existed from the beginning and is the central fact in the history of the universe. How far the Bible itself is responsible for such a scheme of dogmatic teaching is a point to be determined each for himself, with such lights of criticism and interpretation as he may have at command. Certain it is, however, that many enlightened minds, including some of the ablest and most independent critics and scholars, reading the Bible as they do other books, and without the bias of a false theory of inspiration, regarding it as a miscellaneous collection of writings upon various subjects by authors enjoying different degrees of illumination and living in ages remote from each other, do not find in it any such connected scheme of theological teaching as that against which the muse of Mr. Barlow so indignantly breaks a lance.

The second poem, called "Voice of Nature," teaches that the universe is governed by One Infinite and Perfect Being, who admits of no divided sway and suffers no part of his creation to be perverted from its original purpose and use through the power of any maleficent will. The writer views Nature and Human Life from the standpoint of optimusm.

" No part is evil, could we see the whole."

The third poem, which is briefer and less ambitions in design than the others, is called "Voice of a Pebble," and goes to show that every thing in the realms of matter and spirit, from the pebbles of the brook to the highest angel is impressed with a distinct individuality, and all are diverse forms of Divine manifestation.

There are many good thoughts in this work, and some indifferent poetry. Passages are not wanting, however, which show the true poetic fire.

The book is handsomely gotten up in beveled boards and printed on excellent paper.

ELEMENTS OF COMPOSITION AND RHETORIC.

Practical, Concise, and Comprehensive. By Simon Ken, A. M., author of "First Lessons in English Grammar," "Common School Grammar," and "Comprehensive Grammar," New York: Ivison, Phinney, Blakeman & Co., 47 and 49 Greene Street. 1869.

This is one of the most sensible books of its kind it has ever been our good fortune to examine. After a careful and thorough perusal, we can fully indorse the publisher's statement as a just characterisation of the work: "It is a simple, concise, progressive, thorough, and practical work on a new plan. It occupies an intermediate position between common grammar and higher rhetoric, embodying from each what is practically most useful to the writer. It aims to make the student inventive as well as critical, to qualify him for prompt and proper expression in discharging the common duties of life, to guard and refine his taste in the general pursuit of literature, and to aid him in his own literary productions."

Undoubtedly the grand aim of the teacher should be to assist the pupil in finding the use of his faculties. As regards the intellect, the main point is to stimulate and train the powers of observation and expression. An apt observer is a ready thinker; and the young mind needs special training in the art of finding thought at least, as much as in the art of expressing it. It is safe to say, however, that more attention is given in our schools to the latter than to the former. Pupils are taught to remember and repeat, to analyze and criticise the thoughts of others; but they are not sufficiently impressed with the importance of having a fund of thought in themselves. They can repeat, perhaps, promptly and accurately whatever is contained in the books they have studied-they can give you the boundaries of a State and an intelligent account of its geographical features, the character of its soil, its staple productions, chief cities and towns, and what is noteworthy in each, because some one has prepared a synopsis of these, which has been impressed upon their memory. But require them to write a description of their own neighborhood, or an account of some process in the arts or manufacture carried on under their eyes every day, and they will be at a loss what to say. They have not been taught to observe and think for themselves.

We welcome this book because we think it is admirably adapted to supply the deficiency we have pointed out in the prevalent system of training. To the teacher, who is ambitious to induct his papils into the difficult art of composition by some more systematic and satisfactory method than that which is usually adopted, this work will be a valuable aid.

The style of the author is as unexceptional as his plan. It is clear, concise, and correct—a model, indeed, of qualities too rare in this age of verbosity and pretense.

HISTORY OF THE UNITED STATES OF AMERICA.

By Harvey Prindle Peet L.L. D., late Principal of
the New York Institution for the Instruction of the
Deaf and Dumb. New York: Egbert, Bourne & Co.,
Printers and Publishers, 338 Pearl Street. 1869.

This is a book designed for the use of the young. From a careful examination of its contents we judge that as an attempt to teach History to this class of persons it is more successful than most works of its kind. The author's style is simple to a remarkable degree, yet always dignified. His statements are clear, concise, and direct. The narrative abounds in minute details, yet is never tedious. The incidents are in general well chosen; and the plan sufficiently comprehensive to present the pupil with a clear, connected outline of the history of our country from the date of its discovery to the close of the civil war. The book is evidently the product of much careful study and of a ripened judgment, and we cordially recommend it as worthy the attention of all who have occasion to use such a work.

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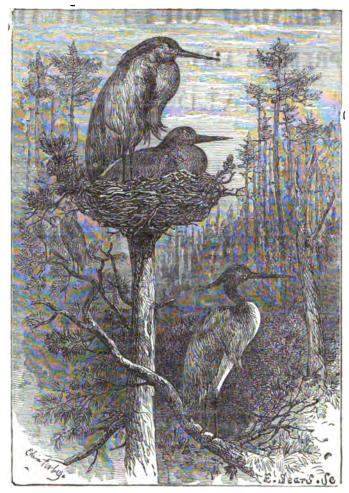
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THE TWO WIVES.

BY MRS. ELIZABETH OAKES SMITH.

CHAPTER XII.

AM INTERVIEW WITH JOHN STEADING — MRS.
PYNCHAM SORELY EXERCISED—THE PROFES-SOR RENEWS HIS YOUTH.

E left Sister Electa nearing the house of John Stearns. It would seem that the excitements consequent upon the death of his mother, and the violence of Janet, had given rise to a series of attacks, known among the vulgar as "fits," and suggested to his mind the not improbable termination of his own life; hence his desire to set his house in order before he should "turn his face to the wall," as the Scriptures so poetically describe the final ignoring of the world and its interests.

It had been better for the man had he been alone in the world—alone to meet its petty cares, and small, actual necessities, rather than be hemmed in by four walls, from which rebounded perpetual noise and discontent, weak repinings, jealousy, and rage. We talk of the sanctity of the domestic relation, and our traditional reverence for it indicates rather what it should be, than what it is.

As Electa approached a small wooden building: fronting the river, and under the brow of a hill,, into which it seemed to be inserted, she heard: the sharp voice of Janet call out,

"Going to the dram-shop, are you, John Stearns? You'd better stay at home, and save at least money enough to bury you with, lettin' alone the claims of your widow!"

"I'll be back, anon," was answered, and a. large, bony man, with a stern brow, and a face habitually inclined forward, a not unhandsomeface though, and a mouth looking as if permanently glued together, slinked out of the houseand sidled along in the shadow of a few scattered pine trees, which had found means tolive despite the scanty soil and bulging rocks. that hardly left sufficient room for their roots. Here he sat down and watched the narrowpathway up the hill, which looked like a. tawny streak through the coarse grass. Seeing Sister Electa approach, he went forward, and conducted her to a clump of trees near by, under which he had spread hemlock branches soas to construct a not uncomfortable seat.

"I feared you would not come. I have had a bad turn," said the man seating himself upon a rock some little space below her.

"Thee sent for me; and I remember that David Parker once told me if ever John Stearns wished to see me, it would be well for me to go to him."

The man was silent for a space, and then said, "Will you take off your bonnet, that I may see your face clearly?"

"Certainly, I will!" and Electa's clear brow and rich dark hair shone out in the fading light as if radiated by a soft halo.

The man pressed his hands together, kneeling before her as if in adoration of a saint, and then he buried his face in the earth and groaned audibly. "I have so longed for this interview, and now I am powerless to speak," he said at length.

"If thee has done any evil deed, John, thee must find courage to confess it, and repair it."

"Go home, woman—go! I can not, will not tell. But when I send, you must not fail to come."

"Thee is bold, and threatening—why should I come to thee?"

"It may be to save a human soul," he replied.

"I will come at thy call," she returned, rising to her feet, for the place grew dark and solitary—the stars were lost in the horizon by the river fog, but in the zenith they shone with a clear metallic brilliancy. The wind sighed sadly through the pines, and the dark, sullen man loomed like an evil specter through the gloom, and yet, as he came near her, his voice was so low and tender that Electa was much awed and troubled by a sense of something not unfamiliar to her.

"Do you think a child would curse a parent, however guilty?" he asked, nearly in a whisper. "The curse of one so lost to all that is good,

would be harmless," she replied.

"When a soul has longed, day and night; donged for years and years, and having repented of his wrong, longed to hear a voice, a voice never to be heard, say 'I forgive!' think you that soul can be forgiven?"

"God help thee, I fear thee has been very guilty. But God is merciful!"

"The forgiveness of a child is more than that of 'God!" he cried.

"Nay, nay, thee talks wildly. The common Father is greater than all."

"Like all women, proud and conceited. I have said too much."

At this moment a shrill voice was heard to . call from the cottage below, "I see you there on

the hill, John Stearns; come down—don't be mouning there this time o' night, and your supper getting cold."

Electa hurried her steps over the ground covered with chips and flats of timber, long piles of boards, with a stick of pine between each, looking like vast honey-combs, and over grass damp and mixed with tall weeds, till she reached the grove of pines in the rear of the college buildings. Here she paused, that she might recover herself, and walked back and forth awhile over the smooth red threads of the pine leaf which carpeted the ground, and breathing the aromas of sassafras and winter-green, under the tall colonades which seem of themselves to invite the soul to peace.

During her absence, Mrs. Pyncham had busied herself in putting the kitchen to rights, in snubbing and soolding Bridget, till she was all of a heat, and making some cream-cakes for tea. She had now resumed her mittens and her "front room" face—rigid, enduring, forlorn. She told the Professor she "hoped he was not getting dropsical, for his skin looked wondrously clear and smooth," whereat the modest man flushed up like a girl, and Cora cried out gaily,

"And how do I look, mother?"

Mrs. Pyncham shook her head portentously, "My poor child," and she rolled her eyes upward, "sorrow and disappointment will leave their impress upon the face."

Cora, in her turn, reddened, and appealed to Sister Electa, to know if she was not as pretty as ever she was in her life. To which the maiden replied,

"Thee is uncommonly pretty, Cora; there is no denying it; and if thee is not content and happy, thee is to blame for it."

"I never knew an old maid in my life that did not side with the man, in case of any difficulty between a couple," retorted Mrs. Pyncham.

"Now, Mother, nobody but you would call Electa an old maid," oried Cora. "Why, she is almost baby-looking. If she had not so much sense, I should pass for the oldest."

Mrs. Pyncham adjusted her spectacles and scanned the face of Electa in silence; then she took them off, wiped the glasses on her pocket-handkerchief, pulled her mittens up at the wrist, gave her little body a little twist, and stared resolutely at the carpet.

"How provoking you are, Mother!" was Cora's exclamation, but Sister Electa very gently proposed that the Professor should read aloud while the three women plied their needles. "I have no interest in those awful books Mr. Lyford reads; they are no better than infidelity, and deism, and scepticism, and unbelief generally. I am an orthodox woman, and do not care to have the doctrines of my salvation disturbed. Look to it, Cora, that you do not renounce your religion, by the ungodly conversation into which you are beguiled."

"There, Mother! you are more absurd than I ever thought you were. Do shut up!"

"My own child turned against me! I can bear it. It is the cross appointed me to bear!" rolling her eyes upward.

"Well, I never dreamed, Mrs. Pyncham, that any one would think I would be willing to shake the religious faith of your daughter." This from the Professor.

"Never dreamed! You deal in dreams on a large scale," retorted Mrs. Pyncham.

The Professor's face contracted sharply, and he replied, "To dream may be a misfortune, but certainly it can not be regarded as a great crime."

This reply seemed to start Mrs. Pyncham off in another direction, and she answered, "1 dream a great deal myself. Always dream before something happens to me. I dreamed all my teeth dropped out just before your father died, Cora, and before"—

"Goodness gracious, Mother! do not talk such stuff," cried the impatient Cora. "I do think women are the greatest flats in the world. I wonder if they are born so, or made so!"

"I can bear it all, Cora. To think my child should call me a fool, or a flat, which is the same thing. I have nourished and brought up children (one child), and they have rebelled against me (that one has)."

"George, are n't we women frightfully foolish, and bad, and contemptible, and unbearable?"

The Professor smiled, and replied, "I know of one who is not at all that, but is a little impatient," and he took his study lamp and was gone.

"There now, Mother! you've driven George out of the room. I hope you are content."

"My child, I was just on the point of leaving for my prayer-meeting, so he might have staid."

Mrs. Pyncham put on her bonnet and shawl, exchanged her mittens for gloves, and was ready to go; but her cold, hard, lonely face touched the heart of Cora, and she kissed her on both cheeks, and called her a dear, pious old soul, and smoothed her shoulders, and went down the

walk with her, and kissed her again, and said "good night."

In the meanwhile, the Professor wrote in his journal.

"My dreaming goes on, clear, connected, a distinct life—an existence as defined, as perfect, as any waking life. The scenery unvisited by me except in books is bright and beautiful. The tropical stars gleam in their refulgent beauty -volcanic mountains send forth their volumes of smoke and flame—the solemn teocalli, with its mysterious architecture is coherent and apt to the design. The Flora is open to scientific analysis; the animal life subject to the same test. Humanity, including my own being, is swayed by all the ordinary passions of our kind. Not a link in the chain of existence is deficient. I thrill with delight. I blanch with terror. I exert the courage, and the resources of manhood. I analyze the expressions on the face of Zalinks-her marvelous beauty is ravishing to the sense, and her melodious voice thrills my heart with rapture. And yet I sleep but a moment. I, here in this nineteenth century, a plain man-what some call a foolish man (in that I have married Cora, who is so much my junior, a fair, willful, capricious girl)-sleep, and instantly I exist thousands of years agone, amid scenes vital in all that comprises a primitive, sensuous civilisation. In this dreamlife I am conscious of a moral sense unlike that of my nineteenth century obligations-I am conscious of a keen, subtle, virginal, indescribable joy. I do not analyse intellectually, but by an innate instinct—I think less, I feel vastly more. I seem to myself younger, stronger, more buoyant-easier pleased, easier driven to rage. My passions are more intense, but not urgent; on the contrary, they require more of the gorgeousness and splendor of material appliances, and the unending accessories of the infinite charms of the senses, and the sentiments of the beautiful. Gold and silver, gems the rarest, and flowers of the richest aroma, seem essential to the all dreaminess of love. In truth I am less the intellectual man of the nineteenth century -consistent, subtile, reasoning; and more the primitive, impulsive creature of an earlier dateproud, vigorous, healthful, and handsome; daring, honest, brave.

"Ah me! ah me! I do not wonder that Lot's wife looked backward. In my dream-life I do not for a moment recognise my life of the nine-teenth century. Zalinka engages every thought and every emotion. Cora, for the time being, is non-existent. I have no remorse when I clasp the hand of Zalinka, as though untrue to

the levely Cora. I am of a younger race. I am nearer the primitive man. I am a glorious creature of untrammeled instincts, and glowing health and passion. The old cumbrous worship, the vast, gloomy pyramids, from whose summits I commune with the stars-the mystic cross, the mystic serpent, fill my mind with awe and an inward, inconceivable sense of worship, that tears aside the mysteries of the unseen and eternal. Progression, eternity, are the natural expression of the material, always evolving the finer, more abstruce, and intangible to the sense, and thus the religion of the primitive men was less intellectual but more fervid, more real, than that of the men of the nineteenth century. To the primitive men, all nature symbolized the hidden and the eternal, and he beheld a meaning where to us is only a blank.

"Then, too, that intermediate state in which I recline on the banks of the Gila and recount my story to the fine old hunter, Rodman, is another existence, in which I live complete, and revive in memory, not as a dream, but as a reality, my life amid the scenes of the teocalli, unconscious of any discrepancy, although we both own to a more modern existence. In this, too, I am irrespective of my life as the plain, somewhat shy professor, husband to the pretty Cora, and talking long hours with that wondrously fair and original mind shrouded in the person of Sister Electa.

"Surely, we are fearfully and wonderfully made. I press the beautiful Zalinka in my arms, and she is all in all to my heart. I awake, and Cora's dear cheek is pressed to mine; and I reproach myself that I have wandered away to other constellations, and listened to the melody of other birds, inhaled the aromas of sunnier skies, and thrilled beneath the touch of a richer, fuller, more gorgeous creation, while she, poor dear, claims from me leal duty, and undivided affection. Ah me, ah me! the old existence is troubled less with doubts and fears than the new. Ah, its restrictions are less, its devotion and singleness more complete! We have strayed from the freedom of innocence, and have gained but one emotion, that of remorse.

"Which is the true life: that in which I sleep, or that in which I think I wake? Are we, each one of us, actual children of the first pair, living through all the ages, believing, hoping, loving, and then dying? Have we come adown the past, through all its stages, from the child man to us, the civilaste, of the nineteenth century? Let me dream! Oh, the barriers of time and sense yield to the infinitude of dreams. In them we realize that a thousand years is as

one day, and one day as a thousand yaers. What then? What is man?

"Poetry is the natural language of youth and passion, and I, the prosaic professor, hear the far-off chimes of these grand, beautiful ages when Homer sang, and the shadowy heroes of Ossian leaned from their hall of clouds to listen to the praises of dauntless warriors. I breathe in rhythm, and my lips will utter the recurring sweetness of rhyme. Thus I record what comes unbidden to the mind:

"LOVE FIRST AND LAST."

A SONNET.

All things of earth must change—Time spareth not

Nor great nor small, nor beautiful, nor vile. The glowing thought, enchanting man erewhile; Good or ignoble deeds, like dullard lot, He beareth onward, all to be forgot. How then do human hearts their fate beguile, If Earth bears nothing, change may not defile! Oh, Great Eternal Love! from Eden brought; Twin-born with Light, upon the golden hill When first the morning stars began their song, Thou dost the bitter cup so grandly fill, That we in loving thee forget all wrong—Thou pure, unchanging, all-enduring still—All else decays, thou art for ever young.

"Alas, alas! In the long, long years, how little thought has been evolved! Man is less heroic now than in the past. Thrift usurps the place of enthusiasm. Ideas are diffused and diluted. Let me think of the lovely Cora, my sweet Cora, so charming to me of the nineteenth century—but Zalinka, of the forgotten life, the weird, Sibylline Zalinka, is all glorious!"

CHAPTER XIII.

Conscientious Scruples of the Professor—A Beautiful Youth—Cora reasons Prettilt—Electa Thinks and Admires.

IT might have been observed that the Professor no longer left his record, as he had hitherto done, upon the table, but he folded it away among his mathematical problems, pressed down by a volume of Euclid; and he made his entries therein when least likely to be interrupted by the entrance of the sprightly Cora.

He writes: "I am seriously in doubt whether I have done the right thing in taking Cora to wife. I number more years, but am as young in spirit as she is. My pursuits are grave, and my habits studious. I neither dance nor sing, and she is fond of both. I am very exact in my person, and she, fastidious as she is, never shows any repugnance to me; did she do so, God forbid that I should be a trouble to her sweet, lovely nature. I would be her friend, her protector, her father even.

"Sometimes I think she is like a child to me, and then it is that she is like the rose of Sharon, and the lily of the valley in the holiness and completeness of my affection for her. Then all her gayety, all the fascinations of her beauty, all the piquancy of her mind, fill in with some void in myself, and I am so content that I repeat to her:

"'If it were now to die,
'T were now to be most happy, for my soul
Hath her content so absolute, that not
Another comfort like to this succeeds
In unknown fate.'

"Cora then gushes fato a beautiful laugh, sometimes with tears in her eyes, and pulls my beard, and says 'I am a foolish old boy to love such a little goose.'

"Cora, I am thankful to say, does not analyze at all. She is content to be content. It is enough for her to be sweet and beautiful. I wish I could live in a world where reforms and reformers were not needed. Where it would be just as natural for men and women to be chaste, and loving, and tender, and religious, and beneficent, as to breathe. Women like Cora anticipate such an age.

"'They do God's will and know it not.'

"Since I dream I am growing to feel a contempt for many of the pursuits which so much engross us of to-day. I have even shown this in my lectures. For instance, I spoke freely and strongly of the folly of studying so much the Greek and Roman Republics, whose significance had become obsolete in human progress, while we neglected the study of our own chartered rights. I said, with fervor, that as collegians they must study the lessons set before them, but I showed them plainly that much they there learned was of a demoralizing character; that the tone of morals in past ages was far more debased than what dught to be tolerated in our That no Christian nation ought to do battle for the sake of the conquest; that slavery now in every shape was contrary to the spirit of the age, and contrary to the moral sense attained in our day.

"I showed them that no man ought to speak for the sake of speaking, but to convince; that

eloquence was not merely in words, but existed in the spirit—breathed itself into every nerve and sinew of the speaker, because his subject was a living gospel to him. I called upon these young men to be in earnest. To be chaste, because their bodies were the temple of the Holy Ghost, and not to be profaned. To be pious, because they lived amid what were daily miracles to mere sense, and all things spoke audibly of God. To be patriotic, because the land of one's birth was best known to us, and ought to be best cared for, and its institutions studied, watched over, and its liberties guarded with ceaseless vigilance, even if those of all other countries were neglected or forgotten.

"My class listened with glowing eyes, and I felt that good would come to them. One young man, more thoughtful in character than most of them, handed me with a blush and most deferential bow, as I was leaving the hall, a slip of folded paper on which he had written in pencil the following:

"'Is the term Siave to be confined to the bought and sold slave?

"'Is not the Christian a Church Bondman?

"'Is not the Wife a Bondwoman?

"'Is not the Husband a Bondman?

"'Is not the unfranchised woman politically a Bondwoman?'

"I read with a sort of horror. I am so ultra conservative. I read with anger, for this youth was more daring than his teacher. I read with shame, for we who profess to lead the minds of the young never see the ultimate of our teachings. We shade the eyes with hand, and beneath this circumscribed range imagine we see all that ought to be seen, and all that can be seen.

"I resolved not to reply to these queries, they being outside of the obvious range of scholastic instruction. As a professor in my particular branch, I had nothing to do with the progressive ideas of the age. I felt determined to keep within my prescribed channel, with such generalizing and rhetorical flourishing as grew natur ally out of my subject, and which may giv testimony to the higher and more eccentric grooves, which even Truth will sometimes scoop out for herself, without disturbing those placid and serene paths amid academic groves and softly echoing porticoes, where Hyblean bees disport themselves, and the doves of Dordona soothe into calm rapture the otherwise too fervid and too aggressive powers of the mind; for what are our colleges meant to be other than receptacles for old clothes, handed down from all time, each garment now and then to be

taken out, turned, dusted, examined, not much shaken, that were dangerous, and then folded away till the proper period of resuming the process shall again come. Our youth are placed there to be clothed in these old clothes, not to get ideas, least of all to question the fashion of the clothes, far less to qualm at their musty odor.

"I grew flushed with anger the more I thought of the audacity of the young man, and resolved to turn upon him the cold shoulder of disapproval, that he would no more molest me with his untimely queries. In spite of myself they would run in my mind, and I held the slip of paper unconsciously in my hand when the tea-bell rang, and I laid it by the side of my plate.

"Now, it so happened that Cora, as she sometimes does when we are alone, had coaxed Sister Electa to pour out the tea, and she had taken a seat by the side of me, where she amused herself by buttering my toast and nibbling at my cake; of course she spied the fold of paper.

"'Shall I? inquiringly, holding it up with a pretty bending of the golden head to mine.

"' Certainly, love,' but with a cowardly flush, for I knew she would overwhelm me with questions.

"She read the first query aloud, with an affirmative nod, saying, 'Even I see that to be bought and sold is to be a slave in the worst sense.'

"She slurred over the Church Bondman with her brows lifted, saying, 'Beyond my depth;' but when she came to the Wife as a Bondwoman she flared up, rosy and resolute, if not wrathful. Then the Husband a Bondman; at which she laughed in merry wise, and picked a large plum from my cake, and put it between my lips, saying, 'that's it—serves you right. To be sure you are slaves.' Seeing me about to reply, she sparkled her jeweled hand before my eyes, and read on, '"The unfranchised woman" is a slave.

"'That's a big word. What does it mean?'
This with the prettiest lifting of the brow, and a
grave look.

""Not admitted to the political freedom of men. Not admitted to a share in the government that controls her,' I replied.

"'Heathen, Greek!' she ejaculated; 'but seriously now, can you make it plainer, George?'

"' Not permitted to vote, by which means we choose our rulers.' I answered with a sort of inward shame, quite new to me.

"'Then she is a slave. I'm sure of it. George, I must vote. When can I do it?"

" 'When the laws are changed, darling.'

"'We must change them; why, it's a perfect piece of arrogance and oppression, George. I must and will vote, or I won't obey a single ruler. Don't you say so, Sister Electa?'

"It was wonderful to see the radiant admiration with which Electa marked the pretty, wifely coquetries of Cora. She laughed a low musical laugh, and answered,

"'Indeed, I agree with you, Cora. All the franchisements of men rightly belong to women. In our sect of the Shakers, all the power is equally divided between the sexes. I do not see that one has any more right to rule than the other.'

"'There's wisdom for you,' cried Cora triumphantly. 'Sister Electa would make a better Secretary of State than Mr. All-snuff-and-tobacco-and-opium.'"

The Professor was startled at the manifest radicalism of his household, and opening a book lying upon the table, read the ominous account of the people who used to scatter pieces of meat where the crows could find them, and then predict events from their mode of eating and their flight.

Sister Electa asked if men had ever learned wisdom except by the cawing of crows?

The Professor did not take the idea.

"It seems to me," she said, "that when the croaking and noise of the people becomes intolerable we get a change and not till then. There must be the dead carcass of a worn out state of things, followed by a dangerous flight of black crows, and then rulers are driven to open their eyes and learn, and yield to the demands of the times."

"I think I take," said Cora, musingly. "We women must caw loudly and then we shall be heard, and then our rights will be granted."

The Professor thought of the college old clothes, and felt the dust working out of them and filling his eyes and nostrils.

"When men claimed inalienable rights," continued Electa, "it was but one phase of the democratic idea. It actually and unavoidably led to a like claim on the part of women. The second is an irrepressible out-growth of the first established claim."

"Where will it all end?" asked the Professor, walking up and down the room.

"Where God and the truth shall direct," answered Electa, her fine face glowing with emotion. "The danger never lies on the side of freedom; always on the side of repression."

"Tumult, anarchy, blood, must surely come of it," replied the Professor.

"Not necessarily. To grant justice is not to

invite wrong. I am for peace, always, for ever—but always, and for ever in all cases, on all subjects, we must have freedom—or death, if death need be."

"And marriage?" demanded the Professor.

"Are the married bondmen and women? Must they be free?"

"If the bond gall—if it fret, corrode, fester upon soul and sense, yes. Better temporary evil than life-long misery. Better annul the bond than dwell amid bickerings and discontent, and that famine of the soul that follows companionship which is no companionship—revulsion and torture and misery beyond expression."

"How learned you all this, Electa?" asked the Professor, bending his eyes sternly upon her.

"It is promised they shall be all taught of God, and thus have I been taught," answered the maiden softly, and at the same time rising and seating the Professor in his chair, and reverently throwing a handkerchief over his face, for he had fallen asleep.

CHAPTER XIV.

THE PROFESSOR PUZZLES RODMAN, WHO GIVES
ADVICE—INTERMEDIATE MEMORIES—RODMAN
A LOVER—TRUE HEART.

TELL you plainly, George,' said Rodman, and he cast his pipe to one side with an impatient gesture, stuck his whole fingers through his crisp hair, leaving it to bristle savagely over his head, while he rolled over upon one side, and then leaning his cheek upon his palm, fixed his eyes intently upon mine. 'I tell you plainly, I shouldn't wonder if that Sarpent had kind o' pisoned your blood. I notice that you drop away to sleep mighty easy, without excusing yourself either.'

"'You do not mean to say that I have nodded, Rodman? Oh no, man! I never was wider awake; besides, I am not a good sleeper. I have to count one, two, three, often up to more than a hundred, before I lose myself. I'm afraid your pipe is too strong for you, old fellow.'

"'Well, that may be,' he returned thoughtfully; 'but did you ever have a sweetheart named Helena.'

"A confused memory of Grecian porticoes, and groves of pine, and olive, and fig trees, swept over my mind, but dim and indistinct; and a face appeared soft and fair, her locks bound with a golden fillet clasped with a grass-

hopper made of precious stones. I tried to grasp the vision, but its shadowy light faded in some distant scene and was gone.

"Rodman smiled, but said gloomily, 'You need not deny it, George. I shouldn't 'ave asked, only you called out the name a minute ago.'

"I was angry and be wildered, and made no reply, which gave him freedom to resume.

"'You're a younger man than I am, George, and can bear a plain word from an old friend. Your natur is lovin'—your thoughts run much en comely women, and I notice women mostly like lovin' men. But they're dangerous, dangerous! You wouldn't think it, George, but its very much my own natur,' and the noble old fellow blushed with the candor of a young girl. 'I restrained it, George, for a woman worth loving at all, is large enough to hold the whole of a man's heart; and its mean in him to expect the whole of hern, when he gives her only rags and tatters.'

"'Did you really ever be in love, Rodman?"
"'Yes, and she loved the old dog just as though he wasn't rough and unlearned, and plain to look upon.' Rodman laughed, as he said this, but the tears were in his eyes.

"' Where is she, Rodman?"

"He pointed upward, and the manly lips quivered, while a deep sigh rather rent then distended his bosom. After a brief silence he resumed:

"'You have seen a fawn at its last gasp turn up its tender-like eyes—well, I saw that look in hern, and then I knew she would die. Her last words was, "Dear heart! what will you do without me?" and I kept still, only kissing her hands. She was cold when I got up and looked in her face. She and her purty baby, such a wax-white purty dear, layin' on her bosom—and I buried them together. I don't think I've been just the same man since.'

"He buried his face in the grass, and I saw his stout frame quiver from head to foot. At length he looked up and resumed:

""Well, George, she made me feel sort of holy. I can not tell how it was, being an unlearned man, but somehow I could never let another woman touch my lips. I don't mean that I am squeamish, or that women would care to do it, though comely women have treated me with kindness; but she finished up all that sort of thing in me, and I always feel as if a smilin' angel with a purty baby was holdin' out their hands overme.' He paused again. 'Now, George, it seems whelpish and unmanly, to my mind, to see a man dividing himself among so many women.

It's foolish, and its dangerous, and I think wicked, and a man who does it leaves himself no time for any thing that is good and great. He gets all worked out, and weak, and spooney-like. I've talked too long, George, and maybe my talk wasn't needed; but if I hadn't loved you I shouldn't have told what I did. There, go on.'

"He rubbed his hand over his eyes, and filled his pipe slowly and with care. I was bewildered. I did not quite understand the justice of his reproof, for I am a temperate man, not given to vanity, and the last one in the world to be in any way bedizzened and led astray by the idle blandishments of the sex. I put my hand to my head and listened, for I heard a great bell striking the hours-one, two, three, four, up to twelve, loud and distinct. Then the sound was repeated, but more distant, and again and again-one, two, three, four, up to twelve; each time further back, as it were, in time; each one enumerative, receding, receding, till it was lostfainter and fainter; and yet it did not stop, but was heard by an inward sense even more distinct than by the external ear. I saw the shadows of cities and empires, people innumerable, from the Nimrod hunters of the earth down through all the stages of civilization, pass like dim shadows before my eyes, and over all, and above all, were the great symbols of earththe Serpent and the Cross.

- "'You said lastly that the gal stepped her foot on the varmint and came straight to you,' said Rodman, taking his pipe from his mouth, and surprised at what seemed my silence.
- "' The priest took the silver fillet from his brows and bound it around mine,' I resumed. Zalinka approached him and said softly, and yet with firmness,
- "'Know you whence this stranger comes, my father?"
- "'He is sent by the invincible God above all gods to teach the people, as hath been fore-told.'
- "'You will listen to him? you will obey him?"
 - "'Assuredly, my daughter.'
- "'Know you not that before the new oracle the old worship must die?"
- "The priest answered not, but a subtile, baneful fire gleamed in a side-long glance, which he turned upon me. Zalinka saw it, but took no netice thereof.
- "'Is there a victim for the altar, when the first ray of light shall redden the teocalli on the morrow?

- "'Take no heed, my daughter, all is in readiness."
- "'I will myself hold the chalice for the blood."
 - "'It has become the office of Navina."
- "' Nay, it is mine. I brook no interference with mine office."
- "'Thou art dead, my daughter, or translated,' this was said with a cold, cruel irony.
- "'So be it!' she replied, and dropping her vail she retired.
- "The priest motioned me to my room, preceded by the dwarf, who led the way. I followed in silence, and with a fearful belief that I was to be the victim of the morrow. My conductor glanced from side to side on entering the room, even lifting the curtains as if doubting whether some one might not be concealed behind them. I was about to throw myself upon the couch, overwhelmed with despair, and dreading that Zalinka would fall a victim to the arts of the priest, when the dwarf arrested me sternly, and pointed to a stone door sliding upon its groove. A tall figure robed in black beckoned me to follow, and the door was moved in its place by the dwarf who accompanied me.
- "I found myself in total darkness, but the hand that guided me, and so thrilled every fiber of my being, could be none other than Zalinka's. There was a flash of light and the sound of approaching feet.
- "' Be firm, be silent!' she whispered, pressing me back into a recess.
- "I now saw three priests approach, led by the one I had before seen in front of the altar; all were draped in black, a cowl of the garment drawn over the head and nearly concealing the face; but the last and youngest of the three, a thin, eager youth, whose keen senses needed little to stimulate them to activity, had allowed his cowl to fall back, and loitered behind the rest. He had hardly passed where we stood concealed, when he stopped and seemed to listen, calling out,
- "'Surely, I heard a breathing, and feel a presence.'
- "He might well hear the beating of my heart.
 "'It is nought,' rejoined the others impatiently. 'Some wild beast has prowled into the gallery, or it may be an owl; heed it not.'
- "They moved onward, but he still lingered listening, and waving his torch from side to side. At length his dark, flashing eye had found us. Quick as thought I snatched a weapon from the hand of Zalinka and laid him dead at my feet.

"Rodman laughed, a soft internal laugh, and took the pipe from his mouth.

"'When a gal trusts herself to a man in dark places, he must fight or die to bring her out clear and safe; it's risky always, but if a woman trusts you, it is no part of a man to let her be betrayed by himself or another. If people peep they must take the consequencies. But I suppose he was in the way of what he called dooty, and was going to give you a mighty sharp time of it, bent back on the bloody stone. Well, well, it's all edication. Mankind are cruel brutes, and when they murder about religion, they are at their cruellest.' He resumed his thoughtful aspect, and I went on.

"We were now in total darkness again. The dwarf whispered, 'Here are four galleries converging at this point. They will return and find the dead priest. He lies as if defending the gallery where we stand, let us take the next.'

"Saying this, she slid aside the heavy stone door, and we again descended. My head ached and my limbs shook as we went down, down, a hundred feet or more. At length we reached what seemed to be a roaring torrent, and I knew that we were near the stream which led through subterranean walls, and supplied the temple with water.

""Whither do we go? asked the dwarf.
"We are safe in these vaults. What is thy will, O Priestess?"

"The faint rays of the morning sun began to gleam upon the water, and the matin song of hirds told that a new earth and a new sky awoke to life and beauty. I was chilled to the bone, faint and hungry, but Zalinka paled not, nor trembled, as the growing light revealed her noble face.

"'Go, Zarita, and bring us food, and thou, Teomax, sleep, and ere long I will explain my purpose.'

"Zarita had gathered the mosses so abundant in this region, and spread a couch for me where the sun rested upon the waterfall, and I was soon gone to that state which so softly prefigures the sleep that wakes not in this world.

"Zalinka had bent her head and extended her arms to the grand life-giving luminary, and then disappeared in one of the galleries which emerged at the base of the falls.

"'Arise!' said Zarita, touching my shoulder.

"'Fruits of various kinds formed our repast, and cakes, made of the root of the guava, a crisp. delicious bread, spread with creamy and dulcet fruits. I could not keep my eyes from the face of my beautiful companion, whose serene expression contrasted with the gloomy state of our fortunes. The dwarf Zarita took a small serpent from her basket under the supply of fruit which she had brought, and laid it softly upon the grass. Strange to my eyes, it began to crawl up the stone sides of the temple, and that, too, with apparent ease. Ascending the steps, leading to the first terrace, we could see that the creature was winding its way in the common path of the priests around the structure, but we dared not emerge from the shadow of the grove, which upon the side of the waterfall concealed the ascent in that direction.

"'The gods indicate our path,' said Zalinka. 'Listen, Teomax. My father dooms us two to death. He fears the extinction of the old worship, and, despite all he has said, would sacrifice thee to our greatest god this night. I, also, must die. There is one way of escape. We have drawn the heavy stone over the common passage of the priests to the great altar of sacrifice. They dare not drag a victim through the sacred Cross—it were sacrilege. Zarita has barred the way by which the procession, as was seen by thee, ascended to the area above. Listen, Teomax. I shall nevermore, after this night, wear the holy fillet of the priestess.'

"She folded her vail over her face, and was silent a brief space. She went on:

"'There is one other passage to the holy area of the teocalli above, known only to the high priestess. She holds the secret till she finds her fate approaching, and then she imparts it to the one neophyte, whom she in her wisdom and sanctity has trained to secrecy, and who will succeed her in the priestly office. Navina, as my father said, for a few brief years will take my place, and then suffer the fate designed for me; but she is firm, and will not betray a secret which has saved the life of more than one priestess and will save mine, but never hers, for we have barred all approach from below. Again she covered her face, and this time she wept long and bitterly. Rousing herself, she continued.

"'You must know that a priestess is supposed to be endowed by the gods with perennial youth, and that, when she has long ministered at the altar, she sleeps many days and many nights, and then awakes in pristine youth and beauty. I know that she lies bleeding upon the altar-stone, the last and most acceptable offering to the gods, and another takes her place. I have the sacred symbol upon my shoulder which gives me power beyond the high priest, and my father for this reason fears me. Arise, we must hence. I had hoped other-

wise—I had hoped my father might—enough, we must hence.'

"As she made the last remark a lovely blush overspread her face, which she turned away from my too ardent gaze. I confess, I was not fully alive to her, or my danger—indeed, I thought only of her soft voice, her noble speech and lovely person.

"'That's it, George,' said Rodman; 'I opine, that there is something in a woman that dazes the eyes of us men; they may be weak-like, but the kind, such as you tell about, take a man's soul right out of him, and he's no more 'n one o' them calabashes dried in the sun—smooth lookin' outside, but within nothing left but a parcel of longish threads and some withered up seeds. We don't know how to feel for 'em, but we look up to 'em and worship 'em, and love 'em with a sort o' madness.'

"'Why, Rodman; I never dreamed this was in you.'

Patience.

BY REV. HENRY WARD BEECHER.

DATIENCE is the quality of bearing or enduring painful experiences. The habit of patience implies a capacity of enduring trouble for indefinite periods; that is, the capacity of setting our minds against pain and trouble, and wearing them out by a certain quality of our minds.

The first element of patience is suffering. Insensitiveness is not patience. A man may stand where you do and be perfectly cheerful, though you may be filled with pain. Your temperament or your relation to the cause, may be such that what afflicts you does not at all afflict him. And his cheerfulness is not patience, though it seems so to you, and though for you to carry yourself as he does would require great patience. One that is timid and another that is courageous stand together. One by mighty patience is able to endure the strokes of fear; and the other endures them because he does not feel them. The nature of the latter is such that he is not susceptible to fear.

The very first element, therefore, of patience is, that you do care for things, and that you do feel their edge or their point. You can not be patient under any thing that you do not care for, because the element of suffering is indispensable to patience. There are ten thousand things that touch some, and not others, according to the constitution of their mind, their education, their training in every way. To each man patience has the radical element of being something borne, and of costing him courage, forbearance, self-command. And it may mount up from these smaller elements to heroism and magnanimity.

Now, the sufferings under which we are to

be patient range from mere bodily pain up through the passions, the affections, the tastes, and the sentiments. And pains may be simple and composite. One may be called, first or last, to suffer in every element of his being. Patience is the capacity of bearing suffering, whatever it may be, so as to count it joyful. A man can not be glad at the same time that he is sorry, and in the same spot; but a man is a composite being, and may be glad in one part of his mind when he is sorry in another part. He may suffer in one faculty while other faculties are in sympathy with things that are joy-inspiring; and the amount of the enjoyment may be far greater than the specialty of the suffering. True patience is the experience of suffering. joined to an ability of enduring it with equanimity, cheerfulness, and contentment. To endure with sadness, with complaints, with struggles, is not patience, or is but a crude kind of patience.

When suffering first comes, it seeks to spring on the mind, or some faculty of the mind, and ride it and there is power given to a man deliberally to take suffering off from the faculty, and put it under his feet. It may lacerate and tear; but there is power to hold it in its place, and wait, with smiles and contentment, until its office-work is done and it passes away. We admire bodily fortitude. We read of noble soldiers and sailors who, when they were wounded in battle, refused to allow themselves to be strapped to a table, and sat to have a limb amputated, and looked upon the operation, and bore the suffering that it occasioned. We admire a man's capacity to endure suffering thus on a limb, and well we may; but more admirable still is that capacity which enables a man, when there is suffering on all his faculties, to hold still, and in other respects let the mind go on orderly and and cheerfully and hopefully.

Patience implies willingness and ability to bear suffering for some good reason. That is to say, it is self-command. It is saying to the stronger parts of a man's mind, when the weaker parts are suffering, "Go to their help." It is saying to a man's conscience, when he is suffering in a lower feeling, "Go to the rescue of that lower feeling; give your strength to it; intone it; hold it up." One faculty thus aids another. A higher feeling inspires a lower. A sentiment lends its strength to a passion. The carnal man finds himself buoyed up by the ministrations of the spiritual man. The more secular element of suffering finds itself wonderfully transformed by the light of some supernal force.

Many men, though they are not afraid of suffering, dodge it, hide from it, coy with it; but he that finds coming upon him suffering of any kind, whether of body or soul, high or low, and knows how, by a feeling, complex or simple, to bravely carry it, and not be imbruted nor adumbrated by it, is the man that exercises patience. To have an ache, a grief, or a sorrow, and endure it, and still keep every part of the mind acting harmoniously and sweetly and victoriously—that is to be patient. It is to know how to bear.

It implies, also, an active use of the reason in estimating cares and sorrows and troubles, and bringing to them moral considerations of weight. For no man can, except through intelligence, see the benefits that come from many of our troubles and sorrows and cares. There are times when we feel that to suffer for our friends is an inestimable privilege. There are times when a man is so inspired by the cause in which he is engaged, that he is not affected by troubles. There are times when a man is so conscious of the importance of the object which he is seeking to further, that little annoyances do not trouble him. There are times, for instance, when a man is so absorbed in carrying on a political canvass, that he does not mind the petty forays that take place between parties and sections of parties. There are times when a man, for the sake of maintaining some great truth, will give an amount of work and means that he is unwilling to give to any more secular object which promises no pecuniary profit. There are times when a man will give up his business, and be conscious that he is losing money, for the sake of supporting some important principle

that is struggling in the community, because it is in the minority—saying, "I could not stand and see that principle go to the wall. I fought for it because nobody else did. And I never felt so strong as when every body went against me. I never felt that I was equal to ten men so much as when every body thought that I was less than one."

We have glimpses and fragmentary experiences of this glorying of the higher nature over the infirmities of the lower. Where it becomes a habitual state of the mind, one is not far from being perfect. When a man can let troubles fall upon him thick and fast, morning, noon and night, and triumph over them, he lacks nothing.

True patience, then, always sees, or believes in, some benefit to arise from bearing trouble. In other words, it is moral foresight. It is a moral exchange, suffering being the price that one pays for a greater good to be enjoyed by-and-by. The coin which we give for higher elevations is iron, and hard to circulate; but the product is golden. Suffering is that which turns every thing it touches into gold. It is the philosopher's stone that transmutes to a higher form all that is low and groveling in us.

Deliberate acceptance of suffering, and carrying it by the force of character, is moral magnanimity, which may reach, often, up as high as heroism. And it is in the silent battle-fields, in the obscure and hidden places of the soul's experience, that God looks for his martyrs and heroes. There are now and then heroes that are disclosed and obvious to men; but the time will come when the most illustrious heroes of the world will be sought for among men who took their life in their hand for a great truth or principle, and made themselves exiles on earth, and disrobed themselves of honor, and gave up the ordinary privileges of gaining profit and pleasure, such as most men crave. Men and women who stand in their humble spheres to do great deeds of self-renunciation, and bear suffering for others, with no hope of reward except that which inevitably follows right conduct, are true heroes.

Let us look at some of the spheres of patience.

First, there is the sphere of common daily life, with all its cares and attritions and sufferings. And let me say, at the outset, that many men who are impatient are a great deal more patient than some men who are far more patient than they—if you can untangle the knot! If you take a man that is constitutionally healthy,

and joyous, and not over-sensitive, and put him through a course of troubles, he scarcely feels them. To him they are nothing, because they strike on a leathery skin, upon a resiliant and buoyant nature, and they bound off from him without causing him to suffer. But if you take another man who has no skin, so that the nerves lie on the outside, and put him in the same situation, every particle of dust causes intense pain. The first man may not speak a hasty word through the long day; but he deserves no credit, because there is no hasty word that he wants to speak. There may not be an hour of the day in which the other does not want to speak a hasty word; and yet he may so far control his impulses as to refrain from speaking hastily; and he is deserving of great credit. The credit of being good-natured depends very much upon whether one is constitutionally hopeful and cheerful, or the opposite. And if a man does not indulge in hasty words, it may be because he has acquired great self-command, or because he is not inclined to indulge in them. And one man may put forth a hundred times the courage and zeal that another does, and yet not succeed in controlling his temper as that other man does. There is many a man that builds fort after fort over against a temptation, without being able to protect himself from it, while his neighbor makes no effort to shield himself from it, and yet is not harmed nor annoyed by it. One is weak and the other is strong. That accounts for the difference of results in the two cases. And the man who puts forth no effort gets all the credit, while the man who puts forth every effort is blamed.

It is very well for a man that is well to give advice to a man that is sick; but not as if the man that is sick were as much worse than himself as he is in more pain. Those who have good qualities must lend them to those who have not. Many a man thinks it strange that his companion is so irritable and impatient. He goes to his business in the morning, and mingles with men, and is engaged in active and varied duties through the day, and at night he comes home, aired and exercised, and his digestion is good, and he has no difficulty in being buoyant and equalized; but his wife remains at home, and has the care of the household, and her strength is over-taxed, and she becomes weary, and under the ten thousand little annoyances that are brought to bear upon her dilapidated system, she gives way to the irritableness and impatience that he complains of. But is it so surprising? Suppose a man should take a babe and lay it down to sleep by the side of a

crocodile, in a place that was infested by mosquitoes, and gnats, and sand flies; and suppose when the child, bitten by these insects, and suffering with pain, waked up and began to fret and cry, the crocodile should say, "My dear child, what is the matter? Why are you so irritable? I do not feel any thing. I can keep my patience!" Many men are covered with thick shells, and they are good-natured because nothing hurts them. And such men are not the ones that should be censors of those who suffer acutely at every pore.

It is better that sensitive natures should have grace to rise above suffering. I am not justifying peevishness or complainingness. I am simply showing that oftentimes persons attribute to themselves qualities which they have not, and take robustness and insensitiveness as being signs of patience.

Patience, also, in the individual experience, must be learned in the collisions of man with man. No man can go through the petty conflicts and misunderstandings which come from the dashings upon men by men, without being tried. Some men are disturbed because they are wronged, or think they are, because they are getting less than is their due, or because they are made objects of censoriousness. Envy, jealousy, misrepresentation, injustice, and a thousand other things, bring men into conflict with each other. And some there are that will never have less than the whole of that which is to be made out of their troubles. But there are others who have learned every day to dust the garments of their soul as they do the garments of their body. Men do not usually collect all the dirt they can find on their hat and boots and coat, and save it. They usually brush it off, and sweep it out-of-doors, and are glad to get rid of it. And yet, men are slow to forget the little speeches that have been made about them; the little wrongs that have been done them; the little conflicts that they have had with each other; the little frets and annoyances of life. They ponder over them, and make the most of the suffering that they are able to extract from them.

It is a great thing for a man to be magnanimous. It is a great thing for a man to carry himself with a spiritualized good nature when he is perplexed, picked at, pierced, and wronged. It is a great thing for a man to bear up under suffering and not think of it. I love to see a great nature, not that is insensitive to these things, but that has trained himself so that he goes through them as in winter a man wraps his cloak about him and breasts the snow-storm, and goes through it, not thinking of it.

After a little experience, a man may come to that state in which he can shine down these things. Even sensitive men, if they begin early, and have a comprehensive view of the task, and bring real faith and conscientiousness to bear, can almost put it out of the power of any man to hurt them. When a man has the testimony of his conscience that his aims are right, that he means to do the right things, and employ the right instruments, and has confidence that he has the power to maintain himself in the right, he can live beyond the reach of any harm that men can inflict upon him.

When such a man finds himself attacked and censured by his fellow-men, one of two things revolves in his mind. He may not feel certain that he is altogether blameless, and he says, "If I am wrong I am going to right myself. I mean to keep in the true way; but if in my infirmity I have mistaken my path, no one can be more anxious to return to the appointed course than I am." But if, looking back, he feels that he has been right, he asserts his conviction, and goes on as before, sustained by the consciousness of being right, and, instead of being depressed by collisions and censorious remarks, rises above them so that no man can hit him.

The endless disappointments of life, also, are included in the category of which we are speaking. How many unreached things there are, the not having which brings mortification and sorrow! How many needs of the soul are unsupplied! We feel hungry; but what all those conditions are which result in the sensation of hunger no man can tell. We know in general what the sensation of hunger is, and we know that the soul has its hunger; but what is the matter with the soul, what are its yearnings, what are its relations, we can not tell. We carry great heaviness of soul, often, which holds us down. Sometimes we have aspirations, and would fly; but we are like birds that are in cages, and can not fly. Moreover, our plans are over-turned in which we had invested all our best desires. Against all these disappointments of life we are to arm ourselves with patience.

Patience is likewise required in sufferings of affection; in the loss of friends; in the discovery of the unworthiness of friends; in the tinding out that our gods are only idols. Concerning all those experiences to which the heart is subject in life, it is more difficult to be patient than it is to be patient in the midst of the conflicts of outward life. Outwardness has something for the

eye, for the ear, for the sense; but those afflictions which take the form of thoughts and feelings, which are silent, which seem to crush the stamina by which we want to react against them, and which seem to take out the life of the soul, are afflictions which more than others require space, if they are to be borne. The needs of affection are infinite, and the trials which come through the affections are infinite, and there is a necessity which compels us to carry these things ourselves. The world at large is not made to meddle with the delicacies of love; and in every nature there is a vast realm of silence where, if patience be not found, woe be to it. But if patience does gain victories there, perfection is not far off.

Patience is required, also, in our higher relations. During a conflict between good and evil in society, patience is essential. When mon have set their heart on any great and noble cause, nothing is harder to bear than the wrongs that are heaped on that cause, by those who array themselves in opposition to it. Many a man is magnanimous so far as he himself is concerned, who finds it hard to be magnanimous in matters that concern other people. A man can forgive an affront to himself more easily than an affront to his brother, or his child. A man can easily forgive an enemy to himself when he finds it hard to forgive an enemy to justice. But we are called upon to be forgiving whether the offence be committed against us, or against that which is dear to us.

WHAT ONE WOMAN HAS DONE.—In the State of New York there lives to-day a finelyeducated and cultivated woman, who, with one fellow-worker of her own sex, has obtained an entire alteration of the laws of the State with regard to the rights of married women to their property and their children, securing to them in great part that justice which is still withheld in most of the States of the Union. But who has ever counted the cost to her of this so great gain to all her sex, or dreamed of the self-renunciations by the way? To be counted "a coarse, obstreperous woman, with whom sensible wives and mothers can have no sympathy," and to be publicly stigmatized by press and pulpit, has been the least of her trials; that her children, to whom she has always been a most exemplary and faithful mother, should have been thus cruelly wounded through her, one may easily understand, has been the bitterest drop in a bitter cup. - Mrs. Isabella Beecher Hooker.

The Plays of Youth in their Hygienic and Educational Import. Translated from the German of Dr. Med Schreber for The Herald of Health.

the Community Dr. Met Schreber jor 1100 1201 and by 1100 and

BY MADAME MATILDA H. KRIEGE.

THE most important task of the art of heal-I ing is to decrease as much as possible the physical and moral ills of humanity, not in single individuals only, but by teaching sanitary rules to a whole generation. In order to assert itself as a science and an art, and to manifest, as such, humanitarian principles, it should not begin at the farthest, viz., to heal disease incurred, but rather it should prevent disease. Its aim should be to turn back the development of the human race in its progress in civilization, into the natural channels, too often foreaken for artificial ones. It ought to aim at diffusing knowledge about human nature in its physical laws and its higher ends, in their moral and spiritual aspects; it ought to correct what ignorance, coarseness, indolence, sensuality, and effeminacy have corrupted.

If our practical statesmen, clergymen, and school-teachers had made the study of human nature the basis of their professional calling, or if, by enlightened physicians, only a tenth part of the amount of study and research expended on the materia medica had been devoted to the development and inculcation of hygienic laws, the condition of civilized nations would certainly be much better.

This view seems to become more and more prevalent among medical men, and to be carried out practically; but while this attitude of medical science is no doubt a very elevated and dignified one, still its practical measures are rather of a negative character. We must claim for it a still higher position, one of a positive charactor, and it is this: that it should not only lead back human society to fundamental natural laws, which it may have forsaken in passing through the different stages of civilization, but also to lead it on higher, to ennoble generation as it follows generation, so that human nature shall develop more and more those possibilities and capacities for a higher culture, for which Providence has destined the human family. That this has to be adapted to the race, the climate, the products of a country, and the mode of life of a people, is self-evident.

From this point of view, we deem the plays and sports of children of the highest importance for their physical, mental, and moral health, and the general development of their life. Let us look at it more closely. From the

time the child has attained the first stage of independence, when his will-power is sufficiently developed and he can exert it on his surroundings, the natural impulse is to use his physical and mental power; he becomes active. The gratification of this power is found and exercised in playing; at the age of from two to seven years, play exclusively occupies the child, if left to his impulses. It may be a quiet play, all alone by himself, or a play in common with other children. Both kinds of play should alternate and fill the time at this age. The child loves play and seeks play, not merely as a passive enjoyment, to be entertained by it, but mostly in order to gratify his desire for activity; and he finds his delight in this pleasurable exertion. From this, it becomes evident how important the choice of playthings is, and the necessity of superintending intelligently the plays of children-a subject which has not yet received due consideration. From the way the child plays, we may infer how he will hereafter act, live, and work. Play-time is the primary school of life.

If the natural craving for activity demands, at a more advanced age, instruction for the expansion of that knowledge which can only be obtained at school, still play should form a pleasing alternation from more serious occupations. There is a truly indispensable necessity for physical and mental recreation. It imparts vigor, and the desire for perseverance in the studies is vastly increased by means of this relaxation.

The importance of the plays of boys and girls visiting schools, in the hygienic and educational aspect, and the necessity of directing the attention of educators to it, we will now take into consideration; and we shall find that not only parents but also teachers have duties to fulfill in this direction. The school should take under its guardianship those sports which are to be played in common in the open air. That it is the duty of the school to provide for these, is understood in its mission, which is to lift the child to a higher plane of development, to fit him for his duties in life as a cultivated human being. But as human nature can not be divided into physical and mental, it follows that where the mind is to be developed the body ought to be developed likewise, as the state of

the mind depends greatly on the state of the body. Inasmuch as the plays and sports of youth serve not merely as means to develop and strengthen the body, but are the means of mental culture likewise, as we shall presently show, it is eminently proper that they should be made part of school education.

If the social intercourse of man with his equals is the richest source of intellectual nourishment, the natural means of mental vivification and purification; if it serves to bring out virtues and to ennoble and elevate man, to the child social intercourse with those of its own age is even more absolutely needful. among its peers the child feels perfectly at home and happy. By this intercourse, and by emulation, every spark of mental originality is awakened, and life is kindled by life, as flame kindles flame. Many a natural talent slumbering in the child as a germ, which would otherwise be stifled and never blossom, is developed by this genial atmosphere, which we may liken to the warm breezes of spring. The charm of play, which is so consonant to the child's natural cravings, lies in this vivifying influence. Joyousness, wit, the powers of invention, determination, courage, and daring, derive their nourishment from this source. The love of imitation, so natural to children, is more alive than ever in play; the portals of life are open to all kinds of influences, and we must, therefore, direct the attention to the importance of superintending those plays that are played in common, in order to keep out all evil influences and to ennoble them.

Another practical advantage of plays in company is, that the self-will of one individual is checked by the self-assertion of another. The child learns to bring his own will into harmony with that of others. If the supervising authority exercises strict justice, without interfering with individual rights and independence, sharp antagonistic qualities will imperceptibly be brought into harmony, and all roughness smoothed—a great gain for life.

This circumsoribing of self-assertion checks obstinacy and arrogance, and cures irritability, peevishness, and sickly sentimentalism. It will be easier for a person of ability and good sense to keep every thing in working order with many children, than even to manage a single child. But the greatest care and watchfulness have to be exercised to prevent a single poisonous drop of injustice, of insult, of satire and snearing, of envy and joy at the grief of others from creeping into this joyous circle. Joy and merriment should reign supreme, and jokes and raillery

should be within the limits of perfect harmlessness. Through steadfastness and right management of their superior, the children will soon gain so much sense of propriety and justice that he will come to be merely a passive spectator, but the sense of true honor in right conduct must be kept alive. Only activity can develop and ennoble the will-power and feeling and form character, on which rests the moral and practical value of man in social life. A character can only be formed, and grow firm and strong by activity; but not in ordinary school life, which consists mostly of receptivity on the part of the child. The child has not yet entered upon the stern, toiling, active life of the man, but he should be prepared and fitted for it, in order to be able to fulfill the duties that will hereafter devolve upon him. The plays of youth are, therefore, the only sphere in which the free and independent unfolding of life and actions of the child can be manifested. These common plays of youth have the great advantage that each more or less forgets himself, and lives and works for a common cause; they awaken public spirit and stimulate courage, resolution, creative and inventive power, physical and mental vigor and adroitness, to be used for the common good. The more gifted child helps the less gifted; the one elevates the other, and in fact all are elevated together.

Of all this, the life in the family offers nearly nothing, and the life on the school-benches even less; and still it ought to be the task of the school, at least in part, to prepare youth for life in the world, for capability and worth as a citizen.

We have not yet mentioned the hygienic importance of the sports of youth, but this is so evident that it scarcely needs be mentioned. A romp in the open air gives, by far, more vigor, dexterity, and joy, inures better to the changes of seasons and climate, than a stiff family promenade. But, alas! our age curtails this lifegiving element more and more for our children; it may be through the increasing requirements of the school, or it may be by the misunderstood requirements of good behavior and gentility; but the more this element is disregarded, the more must we advocate the urgent necessity of these plays. The children in our large cities, where population is so rapidly increasing, are the worst off. Neither school-teachers nor parents seem to care. The children themselves would find the remedy, if they could. But not only are the school authorities and the family indifferent, they act in opposition; the former by absorbing almost all the time of the child, the latter by destroying the child-like simplicity by foolish notions of propriety, or else through groundless fears or effeminacy. The Common Council, instead of providing suitable playgrounds for children, begrudge the room it takes, and think, in using it, of every thing else but the children. If a few children sometimes assemble in an alley or a garden, and how seldom have they a chance, they have nothing provided for play, they have to do it stealthily, and are almost regarded as delinquents; therefore, a great many beautiful plays we enjoyed in our generation have almost wholly disappeared from juvenile circles.

Gymnastics and gymnasiums are certainly an essential element in our civilization. We have only to regret that they are not more widely spread, and that where they do exist they are not frequented and patronised enough. But if even this were the case, they would not be sufficient to replace the commons and play-grounds for children, because these are a necessity for their whole harmonious development. I have said before that the play as such, in giving an opportunity for a life in community and for acting out within certain limits the innate individual capabilities, has too high a value to be disregarded.

If people were once convinced of the great importance of this matter, a suitable place could easily be found; every open space or square, or unused land on the outskirts of towns might be adapted to the purpose. A community certainly would not hesitate to provide the means that the necessary apparatus and fitting out of the place might require.

But, in order that the plays really fulfill the intended uses, it would not be sufficient merely to provide the necessary grounds for these games, as we see it done in England; the grounds and games must be properly and systematically arranged and superintended. The parents of all classes of society must be able to have perfect confidence in the judicious and beneficent management if these methods should come into general use and favor, and thus the desired results be obtained. Of course, we do not understand by this a surveillance by the police, but rather a fatherly government, in order to prevent abuse and rudeness, and that the plays of youth may exert a truly ennobling educational influence, as it was once done in the ancient Grecian republics.

For this position, a man would have to be chosen who combined with general culture a love for and a knowledge of athletic sports, and the laws of physical development; he would have to be responsible for order and obedience to the regulations of the play-ground; the utensils and apparatus would have to be under his care, and it would be necessary that his residence should be located on the grounds. A like provision should be made for the girls; the play-grounds might be adjoining, and superintended by a lady. Of course, their plays would naturally be of a different character.

The surveillance would have to be exercise in such a manner that the utmost freedom consistent with the rights of each individual, and whole sections would be sacredly guarded, as well as justice, order, and joyous liberty maintained.

To the school authorities, the higher control and the introduction of truly ennobling games might be intrusted, and this control might be exercised without infringement on the natural creative spontaneity and joyousness of the youthful mind. By such arrangements the fears of demoralisation that parents might have in letting their children take part in these public plays would have no basis; on the contrary, these would do away with a great deal of demoralization and temptation to which the young are now exposed, if left to themselves. The different school-classes could have their regular days, and appointed hours and times might be set apart for general participation of all those children who are at leisure.

The harmonious, vigorous development of the youthful organism lays the foundation for the health and strength of the whole subsequent life. It is the germ from which blossoms and fruits are to sprout, the quality of which will depend upon this germ. Happiness or misery will spring from the course now taken. In order to develop the child physically, mentally, and morally it must, in addition to being instructed in school, also have scope to play. The house, the family can not offer in this respect what the school, what a community might offer.

The thorough culture and education of the young is the vital question of the life of a community, of a State. Only the harmonious and vigorously developed man can fully do his lifework, for himself and for the world; he only can be a useful and noble citizen of the State.

These preliminary conditions of the whole subsequent life which we have just now taken into consideration are of vast importance, and ought to enlist the cooperation of all parents in the land who care for the well-being of their children, and of all the school and State authorities. May these suggestions not have been made in vain.

A New Song of the Shirt.

BY J. IVES PEASE.

With clothes all spotless and white,
With clothes all spotless and clean,
A maiden toiled, far into the night,
Tending a sewing machine.
Click click, click click, click click!
The glittering needle flies;
Its point as sharp as a serpent's fangs,
Its eye like a serpent's eyes.
Her thoughts upon the rack,
Her body bowed and lean,
She moaned, with an aching heart and back,
This moan of the sewing machine.

Flounce and ruffle and frill,

'Broidery and braidery fine,

With the old chain-stitch (chaining Poor to Rich),

That Mrs. Mammon may shine.

Tick tick, tick tick, tick tick!

'T is for her fine garments, and proud;

For me't is only this death-watch tick,

The toiler's doom, and a shroud;

And I care not how soon life's thread

Snaps in the thankless strife.

I am dying, not for the want of bread,

But for want of a livable life!

She feasts in her mansion grand,
While I on husks must dine;
A ring of diamonds bedecks her hand,
A ring of scorpions mine!
For I'm "only a sewing girl,"
While she weds a millionaire;
Her round of "duties" life's giddy whirl
Mine work, and want, and prayer.
"Only a poor sewing girl!"
So stabs the sarcasm keen;
O heart, "hearth and home" are slow to come,
Wooed by the sewing machine!

My hands were than hers more fair;

My cheeks, without paint, as red;

As loving my heart, as "regal" my "air,"

For I was tenderly bred.

But riches took wings, and want
Brought all that want could bring;
And gold was offered, with "friendly" vaunt,
But never the plain gold ring!
Oh, 't is hard to be poor and brave,
And toil through a life so mean;
While the pave brings leisure and life's pleasure,
Want brings the sewing machine!

I know that in yonder mill,

Where the lights still blaze and shine,
An hundred "workers," more ghastly still,
Slave that old Mammon may dine.

While, hissing, and coil on coil
The fire flend throbs and beats,
"Til a tangled skein of nerves and brain
Are woven into winding sheets.

Next week the "grand ball" will be given;
Will these makers of wealth be there?

Nor music nor light make glad their night
Who created the millionaire!

Alas! and is this the sum

Of all for which life was given?

Is this "the kingdom" we pray "may come
On earth, as it is in Heaven;"
The "golden rule;" the "greatest good,"
Foretold by bards and sages;
The perfect "human brotherhood,"
With wealth, want, woe, and—wages?"
For the few, broad lands and gold;
For the many, heart and soul starvation;
With our "five feet two" of churchyard mold.
And is this civilisation?

O Pagans, in all but creeds,
Not thus Confucius taught!
O Christians, in all but deeds,
Not thus the great Master wrought.
Better your well-trained dog
For "an airing" daily driven,
Than a toiling hind, with that curse, a mind,
And a very far off Heaven!
Better the heathen's life,
With a dance on the daisied green,
Than this toiling, torturing, deadly strife
Of a mere flesh-and-blood "machine."

But why talk of heathen lands,
When the heathen are at our door;
The cannibal ghoul that embroils your soul;
The out-caste Pariah poor;
The idolatrous worship of gold
In every hideous shape;
Daughters to legal alavery sold—
And flesh and blood go cheap!—
A harem of other men's wives,
While "charity" cloaks the chicanery?
Oh God! that such should be men's lives,
While Mammon drives the machinery!

A Psychological Glance at the Woman Question.

BY O. B. PROTHINGHAM.

THE woman question, as we have fallen into the habit of calling the problem of women's place in modern society, presents various distinct phases for consideration. most prominent and most important of these phases is suggested by the necessity that is now laid on women to support themselves by their own industry. The next comes up as we regard women in the light of property-holders, living under laws that are made for the protection of property. The relation that women sustain to the laws that regulate their social and civil condition, raises another set of questions touching their claim to have a voice in the making of such laws. The advocates of female suffrage start another inquiry still, namely, whether women, as citizens, should not share with men the duties and responsibilities of administering the government of the country. Women have yet another order of champions, who contend that, as intelligent beings, they should be permitted the same generous culture of all their faculties that is accorded to the other sex. These are all, in a measure, distinct questions, though very closely interlinked. They may be separately discussed; their relative importance is very differently estimated by the persons debuting them, and one or more of the positions involved in them may be held by champions who are indifferent and perhaps even hostile to the others.

But underneath them all, and directly affecting them all, lies a question of the gravest moment, which thus far has not received the attention it demands; which has not been thoroughly

discussed; which some are unwilling to disturb because of its difficulty or delicacy; which some, honestly perhaps, regard as irrelevant or premature, and which not a few appear to think may be pushed unceremoniously aside; and that is the physiological question. Physicians have spoken on it. Physiologists have skirmished about it. Mrs. Farnham wrote a book in which it occupied a very conspicuous place. Thomas Laycock, in his work entitled "Mind and Brain," devotes to it's brief but pregnant chapter, beside throwing out many a casual suggestion bearing on it. But in the general discussions that occupy and agitate the public, this feature has been less prominent than it ought to be.

It can hardly be denied, it never, we think, has been denied, that women, as such, are constituted for purposes of maternity and the continuance of mankind. They were formed for this at the beginning. The first woman was provided with organs for this purpose, and every woman since has possessed the same. Whether they be used or not is aside from the point; in any case they may be used; their use is contemplated. They are given, and along with them is given all that their possession implies. Unmarried women are nevertheless, in all respects, women. Widows and virgins, women of leisure and of idleness, plain women, unattractive women, repulsive women, are still women. Dr. Napheys, in his pleasant and instructive little book on "The Physical Life of Woman," says: "Man is man for a longer time than woman is woman.

With him it is a life-time matter; with her it is but a score of years or so. Her child-bearing period is less than half her life." But this half of life is the most important half; it covers the period of education, discipline, the formation of habits, the maturing of dispositions. If, after the so-called "change of life," she exhibits masculine tendencies and traits, as Dr. Napheys affirms, it is then too late for her to become any thing but essentially a woman.

There seems to be a disposition to regard the maternal function as an incidental matter, that may require time, interrupt occupation for periods longer or shorter, disarrange the continuity of effort and experience, for a few years perhaps monopolize interest and feeling to a considerable extent, but nothing more. Really, however, its significance is much deeper and more radical than that. This single fact of organization strikes through and through the feminine constitution, whether it be developed to all its consequences or not. The formation of woman for purposes of offspring brings with it other provisions for maintaining and rearing offspring which, one after another, subsidize her whole being, and bestow on the sex mental and moral characteristics that are general, and it would seem ineffaceable. The whole woman bears the evident marks of this single leading intention. This is precisely what might be expected; for as the successful continuation of the race is the grandest function of the race, the noblest elements must conspire in it to make it per-To this point in woman's constitution every thing therefore converges, and from this point every thing diverges.

On the woman devolves the duty of supplying with material of nutrition from her own body the prinordial molecule, which is the germ of a living being. To this end she is furnished with a distinct economy which the male of no animal possesses. She must provide food, warmth, protection for the undeveloped creature, during a space of nine months. There is no knowing when she may be called to do this, and there the arrangement stands, unused though it may be for years. The duty must be continued after the new being has been produced, only with more various, elaborate, and complicated apparatus. The woman is organized, every woman is organized for the long, difficult, exhausting work of rearing all the offspring that are born to her. For this grandest of human tasks there is a rally from all parts of her system. Protection, food, and warmth she must furnish, and by means peculiar to herself. There is a special economy for supplying nutriment, of which the

man is entirely destitute, and which she must carefully guard. Her bosom is the warm, soft pillow for the child to lie on. Her wide lap is necessary for its support. It must be carried gently, firmly, and patiently; she is formed for this, too, the arms making an easy cradle, the shoulders a pleasant resting place for the head.

Her task furthermore requires peculiar dispositions, and these she has. The females of all animals have a tender sympathy, which extends itself to the young even of other females, and establishes almost an identity of claim with their own. This instinctive, passionate, devoted, inextinguishable love, pledges every endeavor to preserve infant life. The love of women is for the tender, the defenseless, especially for the young who are unprotected. It is a necessary endowment for her to whom infant life is committed. Necessary, too, for the same end is the pity that never overlooks a pain, the solicitude that watches every chance for good or ill, the patience that never tires, the self-consecration that postpones luxury, ease, comfort, pleasure, satisfaction, advantage, every thing in the world, to the physical well-being of the helpless one. For this purpose woman is all heart, feeling, sentiment, sensibility; she is a child with the child; she is imaginative, fanciful, credulous, superstitious, because all these ingredients of delicious foolishness go to create the atmosphere in which the developing creature lives and moves and has its being. The sweetness of her voice, the tenderness of her eyes, the radiant illuminations of her countenance, all minister to the same end of encompassing her offspring with genial influences, and warming a soul into life. Nature bestows on her these gifts for these uses, and the uses instantly begin to develop the gifts. They come when wanted. Women, with very rare exceptions, even uncomely and otherwise unlovely women, are angels with their babies; they are angels for the sake of the babies; angels through their babies. Babe and angel come and go together. Woman's infirmities are here a strength, her egotisms, her intensity of personal feeling, her jealousies, her variability, caprice and fascinating pettiness of temper assist her materially in the task of living for and in the tiny being who, but for her, would die.

If we analyze closely the qualities that are deemed characteristic of women, and in mature women are regarded as least admirable, we find them too singularly adapted to the great office which may never in the individual case be discharged, but which must in every case be provided for. The excessive fondness for details, the passion for privacies, the love of gossip, in-

quisitiveness, the disposition to advise, sometimes to interfere, even, if the word is not too harsh, to meddle, the over-caution, the timidity, the dread of innovation or change, the conservative instinct running to tenacity, the confidence in feeling as a guide superior to reason—however annoying in childless, widowed, or matronly women—come into play as most important auxiliaries to the noble feminine work of guarding from danger and rearing to beauty the young immortal whose destiny is committed wholly to feminine care. The infant must have the benefit of the utmost minuteness of thoughtful consideration, and some woman must show it—a nurse, if the mother fails.

The task requires a peculiar intellectual constitution, a special kind of sagacity, perception, insight, forethought, an intuitive knowledge of needs, a swift inventiveness, a sympathetic intelligence of dispositions and moods. mother's mind must be exceedingly active, alert, and fertile in expediencies, self-reliant, prompt, and concrete. Available thoughts are better for her purposes than accurate, just, or logical thoughts. The speculative reason she can do without. Grand ideas she has little use for. Her mind is needed in her fingers' ends. In this bigh calling of hers abstract theories have the smallest conceivable value. Speculation on deep problems would lead her away from the lines of her daily interest. Even the stirring affairs of the outward world, civil agitations, public events, concern her little. Her capacity in directing and managing the business of her own inward world is immense, because that same inward world has preëminent claims on her attention. Knowledge she may well have, if she can get it; but in default of knowledge, a saving common sense is hers by the necessities of her situation, and that is vastly more useful in most cases than any knowledge she would be likely to obtain from books. That common sense is a feminine attribute we all know; but we seldom suspect its ultimate association with the function of maternity, which, in appointing the distinctively feminine occupation, amply qualifies the feminine nature to discharge it.

It is observed that the females of all animals possess what we may call architectural instincts, that teach them where they may suitably build their homes, and after what fashion they may best construct them. In these arts of construction and decoration, the females of the lower animals display an exquisite artfulness. It devolves on them to make the home safe, comfortable, pleasant, handsome, as it should be. As the orders of being ascend, this species of skill

becomes more elaborate and wonderful, its range much wider, its resources far more abundant, its designs vaster and nobler. When the nest is a chamber, or a set of chambers, a house, and a woman is the presiding genius of it, talent for arrangement, skill in combination, taste in decoration, perception of the desirable and the beautiful shows itself in a hundred graceful ways. Women have an extraordinary, it would seem an instinctive, at all events, an easily acquired knowledge of all textile fabrics, and a natural facility for making them into garments. Their much-abused love of ornament and dress may be traced to the primeval demand that may be made on any woman to beautify a home and render it in all respects attractive to young occupants, who, in this way, are kept under sweet influences and educated in the perception of loveliness. These delicious infirmities, as so many think them, this passion for pretty things, for elegance and luxury, are an important part of woman's furniture. Women are not women without them. They may be very expensive, when expense can be afforded; but they are possessed by women who can not meet expense. They lead idle women into follies and vices, as any other good gifts may do; but, for their original purposes, they can no more be dispensed with, than can the softness of the bosom or the suppleness of the frame.

This providential call to maternity affects even the religious nature of woman. Hers is the religion of the heart, the religion of affection, domestic religion, simple, confiding, conservative, personal. She neither asks questions nor harbors doubt; but believes, hopes, loves, and trusts. She must have a personal God, a special Providence, a real Heaven-divine things that she can lay hold on, press to her bosom, and warm herself by. Both thought and feeling are needed all the time where she is. She can not afford to send them away from her post of duty in quest of celestial things. That would weaken her. Celestial things must come to her that she may fold them about her, may bask in their atmosphere, may live in their sunshine, and enrich her whole soul with their charm. Her offspring needs this, and she instinctively provides it in greater or less measure, according to her ability.

Such, briefly intimated, seem to be organic accompaniments of the feminine form and function. Not less than this, but rather a good deal more is involved in the sacred commission to bring forth and rear, to nurture and protect the future man.

In view of all this, it sounds strangely to

hear people say that the difference between men and women is owing to a difference of circumstances or of education, and might be abolished or outgrown under new systems of mental and social training. Mr. Mill, speaking of the actual relation in which woman stands to man, says: "It arose simply from the fact that from the very earliest twilight of human society, every woman (owing to the value attached to her by men, combined with her inferiority in muscular strength) was found in a state of bondage to some man."

Further on he writes: "Standing on the ground of common sense and the constitution of the human mind, I deny that any one knows or can know the nature of the two sexes, as long as they have only been seen in their present relation to one another." And toward the end of his book on the "Subjection of Women," he throws out the idea that with new laws, a changed social coudition, readjusted economical, industrial, and educational arrangements, radical alterations may be expected in the mental and moral qualities of the sex. He instances particularly "the passion for personal beauty and dress and display," and dwells on anticipated modifications in the tone of her affections, manward and God-ward.

But the conduct of men, however brutal, is surely not responsible for the structure of the feminine form, nor for the peculiarity of the feminine function, nor for the special provisions made in her physical constitution for that function's discharge, nor for the mental and moral characteristics that are needed to render its discharge complete. So much must be taken for granted. Women, in consequence of it, may have been made victims of vulgar or brutal men; but this is all antecedent to such vulgarity and brutality, and will probably continue as it is after the vulgarity and brutality shall have passed away. Men did not make women what they are, and can not make them other than they are. If they could, the race would probably suffer infinitely more than it would gain.

To dogmatize about the "sphere" of woman is of course premature. To limit her capacity, curtail her privileges, refuse her desires, reject her claims, is the extreme of presumption. Her title to all the education, culture, occupation, development, it may be possible for her to receive, and profit by, should be frankly recognized by every honest man. Let her civil rights and her position in the State be candidly considered. But none of these issues can be wisely debated, so long as it is forgotten what she physiologically is. And nothing can be wisely done in he

behalf, if this point is not consulted. Every question respecting women is not open. Some things are fixed, and must be taken for granted. Precisely what they are, and how many, it is for the physiologist to decide. He must have a voice potential in the debate on woman's general and technical education, the pursuits she may follow, the labors she may undertake, the fatigues and excitements she may undergo, her qualification for civil positions, the probable effect on her of entanglement in national affairs. How much more than she is she may become, how much happier and more useful than she is she may be, how much and in what directions she may expand, it is of the deepest interest to consider. But what she is, must be regarded as established. Her form suggests it; her organization reveals it; her principal function explains it; her mental and moral constitution bears out the interpretation of her organism. There is a sure basis of fact to build on; and good building should, we are persuaded, rise from this basis, and not from any different foundation laid in theory or general philosophy. The reformers may all be right, their schemes wise, their efforts salutary. But they will prove themselves to be so, we are convinced, not by their efficacy in making women different from what they are and always have been, but in their tendency to make them richer, stronger, and happier as they are and always have been. Woman's great function may be more nobly discharged and may more ennoble her, but her first function will still be her last and best. The time will no doubt come when she will more honor it and be more honored in it, when she will bring to it richer resources of culture and feeling; but the time will probably never come, when it will hold a less prominent place in her thoughts or exert a less controlling influence on her mental and moral constitution. Enlarge and enlighten the rational being as we may-unfold capacities, develop tastes, devise utilities, the genius for teaching, molding, educating childhood, will be the divinest attribute in women. In every beautiful form, in forms more and more varied possibly, motherliness will be the feminine characteristic.

THE PROBLEM SOLVED—A young lady riding in the rear car of a long train, remarked to her companion that the train seemed to move very slowly; and a moment after, added with almost Partingtonian unconsciousness, "but perhaps it is because we are in the last car!"

"Ears, but they Hear Not."

BY REV. CHARLES B. BRIGHAM.

THAT more provoking malady than deaf- \ ness afflicts the race of man? It is not so bad to the sufferer as blindness. If we were to choose, we should probably allow the ear to be stopped, before we would allow the leg to be amputated or the nose to be cut off. But to those who wait upon the sufferer there is no malady more vexatious than the ear which refuses to hear. One never knows exactly what to say to a deaf person, or in what way to say it. You may scream in his ear until you are hoarse and the chances are that he misapprehends your word. Intercourse with him is a perpetual trial; and when Job says to his wretched comforters, "Doth not the ear try words," it is quite possible that one of these tormentors was hard of hearing. A deaf person in assembly is not only uncomfortable himself, but makes the rest uncomfortable, in the fear that he may misunderstand what they say to one another or suppose that they are talking about him. They can not read his thoughts, and he is as unwelcome as a parson in a dancing hall under the Puritan regime. He is himself too continually in doubt, if he is not violating proprieties, by speaking in unnatural tones or where he ought to be silent. A venerable divine, whom we once knew, very careful of the decencies of the sacred place, used to amaze his congregation, after he became deaf, by his whispers to his colleague in the pulpit, which could be heard all over the church. The guests of the hospitable Wardle, as the veracious story of Pickwick tells, were rather scandalized at the free remarks of his dignified old mother, who said to all the company what was meant for a single ear. And the Speaker of the Massachusetts House of Representatives knew to his sorrow the plague of this evil, in his attempts to call the excellent George Bradburn to order. The closed ear of that free critic was insensible to the official mandate; and he always mistook the signs for encouragement.

Without going so far as a recent writer in an American magazine, who claims that the shape of the external ear is an indication of character, and that large and well-formed ears, which sit neatly on the head, are a sure sign of pecuniary thrift and future wealth to their owner, we may still affirm that the external ear is not the least important organ of the head of man. On the

animals, indeed, it is more conspicuous. characterizes more than any other organ, that patient beast to which Issachar was likened, and which, alone of beasts in the Hebrew story, was privileged to utter a prophetic word. The ear of the horse, perpetually in motion, marks his attention, his temper, and his intelligence. That great flapping fold on the cheek of the elephant redeems the ugliness of his trunk and tusks. The beauty of the King Charles spaniel is mostly in its soft silky ears. These, too, make a convenient handle for the rabbit's head. The external ear is relatively less in man than in any of the lower animals, and indeed is often made invisible by his fash-The Southern fire-eater, of ions or fancies. pure blood, used to hide his ears under his long flowing locks; and many can remember when the hair of matrons and virgins was smoothed upon the ears as faithfully as upon the scalp or temples. In a favorite style of the last generation, the mark of what was once a disgraceful punishment was obliterated, and one might find it a convenience to have his ears shaved close. or pinned back. And who can tell, since fashion has permitted mutilation of the feet to make them graceful, in the case of a Chicago bellethat fashion will not suggest a neat and artistic trimming of the ear as part of the barber's duty. There is no more intrinsic absurdity in this preparation of the ears of men than in the trimming of the ears of terriers and bull dogs. And if the fashion should spread as rapidly as other fashions which mutilate the human frame, it may become by and by a sign of vulgarity, not to say of sin, to appear with "uncircumcised. ears." That phrase, indeed, is Scriptural, and is used by Jeremy of the obstinate children of Benjamin.

At present, the external ear does duty ratherin the exhibition of ornaments, in carrying thegold and precious stone, the pearl and diamond,
which civilized barbarism parades as signs of
beauty. Probably no preaching and no ridiculewill hinder that boring of the ear, which is oneof the most ancient as it is one of the most widespread of all human customs. The NorthAmerican Indians, the Malays, the Fejee Islanders, the African negroes, bore their ears aspersistently as the fine ladies of Paris or Boston.
This is a custom that barbarian and Scythian

bond and free, have in common. It is provided for, too, in the Mosaic law, only there it is the special sign of a slave's bond to his master. A slave that does not care to go free, and is quite content to serve his lord for ever, may manifest this willingness by submitting to have his ear pierced by an awl, and nailed to the door-post. Even that bad meaning of a hole in the ear will not make it disgraceful, so long as it offers such a convenient suspension for jewelry. Earrings may "go out" for a little time, but they come back very soon, and they will resist the eloquence of modern ascetics as they resisted Chrysostom in the Imperial pulpit of the fourth cantury. If fashion so orders, the delicate cartilage will be loaded with heavy weights, and the ear drawn out into torment. There is no bound to the endurance of a woman, where fashion is in question, and she will relinquish her "rights," rather than neglect or sacrifice her ornaments. Perhaps this slight mutilation of the ear is worse, as a matter of taste, than as a sin against the frame. There are no authenticated instances of loss of life or of health from the boring of the ear, or of any changes in the nervous system. It may be, that like tobacco and alcohol, as Mr. John Fiske argues, earrings have actual sanitary value, as good as that of Perkins' Metallic Tractors.

The external ear, in man, from its fixed rigidity, is not specially expressive. It was proposed, some years since by a reformer, who insisted that every thing had use and ought to find its use, to train the ears to move, since human ears as much as the ears of beasts had muscles of motion. Why should these muscles remain inert, more than the muscles of the feet or the fingers? Ought not these to be included in a comprehensive "kinesipathy?" Ought not the light gymnastics of the parlor and schoolroom, to exercise the ears as much as the wrists or the neck? Would not diseases of the ear be hindered, if its doors were allowed to swing on their hinges, so that they might rule the temperature of the house and its passages? As the moving eyelids protect the eyes, why should not the moving earlids also protect the ears? That the ear could be educated into voluntary motion there is no doubt; and instances occasionally appear of those who can move their ears forward and backward. Some savage races have the faculty. The good to be gained, however, by this kind of gymnastic, is not sufficient to encourage it as a branch of physical training, and there is no real foundation for the notion that it will help to guard the inner ear. The eyelid and the outer ear have very different functions in

relation to the inner sense: And the ear, standing firm in its place, protects the hearing as effectually as if it were always in motion, like the ear of a deer or a horse. It might be well, certainly, to try the experiment on a larger scale, and ascertain if hereditary deafness may not be avoided by motion of the outer ear, and the flexibility of the muscle be transmitted to the finer organ within. The ductility of the ear is frequently tested by the passion of impatient teachers, and flexible ears would be spared some of the pain of this pulling.

The soul of the ear is not in its outer sign and door, but in its labyrinth, as curious and as puzzling as the labyrinth of Ariadne. bodily organ has more of mystery in it than this hearing ear, which catches and holds such delionte vibrations, and makes the pulses of the air the vehicle of such varied thought and emotion. The ear is the finest medium for the communication of thought and feeling, and where this is closed no other medium can fully take its place. You may try to look your thought into the face of a deaf man, or to figure it by gesture, but you never can quite succeed. That ethereal art, too, which more than any other, is in the picture of spiritual joy and the rapture of the saints, appeals to the ear first and chiefly. Only to those who hear has music genuine meaning. There have, indeed, been deaf composers; the greatest work of Beethoven was brought out after his ear had ceased to note the harmonies of viol and flute. But no man ever composed music who was born deaf, or who had not learned to find it by his quick and sensitive ear. The compositions of the deaf masters are reminiscences of their former experience, and come out of the stores which the ear has gathered in its treasure-house. The Ninth Symphony is the consummate flower of all the harmonies which the ear of the great composer had caught in the storm and stress of his troubled and aspiring life. Some have, or pretend to have, the capacity of enjoying music merely by reading its score. The printed page gives them its melody, sung to the soul through the eye. The late Dr. Marsh, of Burlington, Vt., had this faculty. Yet it will be hard to convince a lover of the divine art that the printed score can ever become the substitute for the tones and cadences, soft and loud, swift and slow, deep and high, jubilant and wailing, which enter at the waiting ear and linger in its chambers. When hearing ceases, the soul of music is left to slumber.

And even where the ear has no heed of musical sounds, and no keenness in detecting them or separating them from other voices, even with

unmusical tribes who mistake harsh and discordant clanging for harmony, the ear is still a sentinel, more vigilant and with longer range than any other, watchful in the darkness, catching what is behind as well as what is before, and judging the distance. The sense of smell only tells of one class of dangers. The ear guards against risks of another kind, hears the storm coming in the night, or the burglar's foot under the window. An Indian in the forest knows far off the tread of his pursuer, by the rustle of the leaves, as surely as if he had traced footsteps upon the snow. The ear of man is not so quick as that of the animals which he owns, and his dog warns him of what he fails to hear; yet there is a marvelous power in the human ear to note and distinguish the faintest sounds. The ear of the young maiden, expecting her lover, announces his presence while his foot is only "a raspin on the scraper." The ear of the sick patient in his closed room, tells him when the physician is in the hall below; and the ear of the physician in turn, opens to the patient the secrets of his malady and finds the way of the blood in the air-cells and arteries, where no eye can reach it. An open car is always alert, and must receive what nature and the world have to say in their voices. Sleep may shut it, but there is no voluntary shutting. The eye can refuse to see while the mind is still active, but the ear can not refuse to hear. The effect which we make not to hear makes the hearing sharper. Sometimes, certainly, mental absorption will shut the ears against sounds, as in the case of a New York editor, writing in the din of wheels and hoofs and machinery, or of one who is playing chess in a thunder-storm. This absorption is exceptional, and usually the ear is ready to hear any vibration in the air, when the mind is awake.

The loss of hearing in the larger number of instances, is the most troublesome infirmity of age. One who has good glasses can read, even if the lenses of the eye flatten. Dull hearing is a more annoying defect and not so easily remedied. Deafness warns us that we are growing old, and rebukes the delusion which it is so pleasant to cherish, that at seventy we can have still the pleasures of youth. It hinders and mortifies piety. The devout worshipper seems to himself to be almost a hypocrite, in going steadily to the House of God, where he hears nothing, or hears so little that all is confused in his mind. It is vexatious, too, that he pays so much money for prayer and preaching that only mock him, and vainly call upon him. The gospel trumpet blows an inaudible voice, except as he carries a companion trumpet to catch its blast. Deafness comes to many just at the time when it is most inconvenient, when they have lost interest in other pleasures, but would profit the more by the preacher's word. It will not do in most eases to send a tube from the pulpit desk to the ear of the deaf hearer in the pews, as is done in a church in Detroit. In large churches such a privilege would weave a fabric of pipes as close as a spider's web. Nor will the custom be brought back of the Puritan time, of ranging the deaf elders close under the preacher's desk, that they may come better under the droppings of the sanctuary. When hearing is gone, it will be time now for fathers and mothers in Israel sadly to forsake the pleasant assemblies of the church, and confine themselves to private study and prayer. No preacher can meet the demand of those who can not hear him, whatever doctrine he may preach. He may be conservative or radical, high or low, but his word will return to him void from such an audience.

We need not here discuss the various diseases to which the ear is liable, diseases of the tympanum, the tubes, the labyrinth, and the auditory nerve. The art of medicine cares for these, and those who are afflicted will do well to consult some expert, who has made them his special study. Diseases of the ear are apt to be obstinate, and in no branch of therapeutics is more money fruitlessly spent. It is easier to prevent them than to cure them. We would only offer some practical hints of the proper care for the organ of hearing, how it may be saved from decay and protected from injury; may keep its sensitiveness, and may do all its natural work:

1. In the first place, and as a general rule, it should be left as free as possible, left open to all sounds, not in any way covered or confined, whether by wrappers or bands, or folds of hair, natural or artificial. The ear should be just as free as the eye or the tongue, notwithstanding its quiet. Any thing which impedes the free entrance of the pulses of sound into its channel injures its strength and destroys its function. A healthy ear, in ordinary cases, needs not to be protected by any thing more than its natural secretions. At the present time, indeed, there is less need of this advice, since the style of the headdress both for woman and man, allows the ear to be seen in the street as well as in the house, and those bands of cane and bone, which once compressed the ear and cheek, have dropped from the fashion. The top-knots which load the skull have at least this in their favor, that they release the lower parts of the head from bondage, and allow sound to come where the quivering air chooses to send it. A free ear, other things being equal, will be a musical ear, able to distinguish tones and shades. There was absurdity in the style of choirs in the last generation, singing with all their might, while the ears of half of them were covered. What could a poor leader do with such a company?

2. But sometimes even natural secretions become a clog and a hindrance. And a second rule is, to free the ear from accumulations which may collect in the orifice, by keeping it clean within and without. The ear is especially liable to take and hold the floating dust of the air, and all the more may this come in, that the entrance is left open. Cold water for this organ has sovereign virtue, and it needs to be washed as often as any part of the body. An occasional injection from the syringe will do no harm, though too much of this is apt to weaken the sensitiveness of the organ. We do not easily see our own ears, and can not know what defilement has settled upon them; yet it is well to take for granted every morning that the ear needs its bath and its friction. Others see the grime, and are given to judge the character of the man by his heed or neglect of this conspicuous feature. An unclean ear is a fault as annoying as a rosy nose, and much more unpardonable. Neglect of this simple duty of keeping the ears clean does more than any thing else to bring on deafness, and to blunt the sensibility of the hearing nerve.

3. A third counsel, which may seem to contradict the first is, to avoid needless exposure of the sar to cold draughts. The air should come into the ear freely, but should not be forced into it, especially when it holds chill and frost. The blasts of Boreas should not be taken on the sides of the head, but bravely taken in front. To sit, even in the summer, by a window, with a current blowing steadily into the ear is dangerous, much more in the winter, when the winds are wild and harsh. These draughts in the ears are the worst hazard in sleigh-riding, and justify the mufflers and fur lappets that else would be superfluous. No direct current into them is altogether proper, even if it be gentle as a whisper; and there is no more uncomfortable companion than one who always has "a word for your priwate ear." Whispering as a habit is detestable, not only from its suggestion of fear and secrecy, but from its annoyance to the ear into which it is poured. In the Hebrew time it was the sign of something doleful and dismal. When David saw that the servants went whispering round the house, he knew that his poor child was dead; and Paul classes "whisperings" along with "swellings and tumults," envy, deceit, and murder. That the angels whisper, is not a Scriptural teaching. The angels sing; but they are only vampires, when they get close to the ear and pour into this their breath.

4. A fourth counsel is, to avoid shocks to the ear. sharp, sudden, explosive sounds, which jar the nerve and in time derange its function. A man whose business it is to test artillery can not be expected to appreciate harmony, and will not be a good critic of the opera. It is no wonder that the Duke of Wellington hated music, after his experiences in twenty years of war. One may get used to any thing in this kind, indeed, and we knew a naval officer whose morning slumber was not disturbed by the daylight gun, thirtytwo pounder, fired just above his head. Mr. P. S. Gilmore, the Napoleon (possibly, some might say wickedly, the Barnum) of American music, added to the crash of this monster orchestra the double roar of brass-throated cannon with immense effect. Yet these cases will not disprove the general statement that shocks of any kind are not good for the ear. Loud sounds do no harm; the ear is not pained by the rolling thunders, which only speak of the grandeur of elemental forces and utter a voice divine. But any sharp sound, which comes without warning, pains the ear upon which it falls, whether it is the crash of a pistol, the slamming of a door, or the blasting of a rock. For auditory reasons, if for no other, we shall do well to keep clear of all "raging rocks and shivering shocks."

5. And still another suggestion is, as far as possible, to shun all harsh, discordant, and grating sounds. There must be wood-sawyers; yet sawing wood is as unhealthy for the ears as filing steel is for the lungs, or working lace is for the eyes. Babies will cry, and mothers must care for them; that trial to the ear must be borne in the interest of affection. Mistresses will scold, and sailors will swear. It is inevitable that the discords of feeling in the world should find voice. All of us have to hear more or less of harsh sound every day, the creaking of wagons, the groaning of winds, the barking of dogs, to say nothing of the more fearful trial of bad music on the flute, or the piano, or the horn. In the cities, where organ grinding crosses the other discords by its unending whine, one prays to be deaf, and wishes that his ears could be sealed. The fewer, nevertheless, of these harsh sounds we allow ourselves to hear, the better. The more we counteract them by musical sounds the better. The songs of the nursery are an antidote to the cries of the nursery, and if the mother can not still baby's sharp complaint, she does well to drown its cries in her own lullaby, and sing it to sleep. The best way to escape the discords of most of what is called church music, congregational singing, sacred singing, is to join heartily in with it. In this performance, two negatives make half an affirmative at least, and one who makes discords himself is not so much vexed by the discords which others around him make. Universal discord becomes universal concord, and meets harmony as it gets around the circle. That fact may explain the Pentecost miracle, how in the multitude of dialects, all shouting together, all were understood, and the Spirit of the Lord seemed to be surely with them. If we must hear that which is harsh upon the ear, let the harshness be multiplied, until it floods the ear.

The ear can be educated, as much as the hand can be trained; and no plan of education is complete or wise, which leaves this wholly out of its notice. Music, in the common school, is as important for the cultivation of hearing as for the cultivation of voice. We need to practise in distinguishing sounds and the shades of sound, as much as in the rules of arithmetic, or the rules of grammar. Indeed, of a large part of all knowledge and all impressions the ear has principal charge. It is the prime minister of memory. By hearing, and the attentive earwe learn the multiplication table, the odes of Horace, and the teaching of the Scripture. The art of listening comes in the training of the ear; and a good listener is sure everywhere to be popular and welcome, even more than a good talker. The model judge is one who always keeps his ears open, though his eyes may be shut; such a man as Chief Justice Shaw of Massachusetts, who heard all that the lawyers said, though he never frowned upon them with his brow of Jove. And he who would hear what the wild waves say, must listen for their voice with an ear attuned to all fine harmonies. What is called culture of the ear is, indeed, often only its chastisement, and native instinct is sadly depraved by the training of these nerves of hearing. An anæsthetic, which shall still the anguish of trained ears in process of training other ears, is still to be desired. It is safest, on the whole, to hear all that we can of harmony, and to keep the ear busy on week days and Sundays, even if we have nothing better than the holy tones of the pulpit, or the overlaid chords of a well-meaning, but ill-balanced choir. If the Divine ear can bear all these tones and strains, why should our human ears not be patient under them?

WHAT POVERTY CAN NOT Do.—If men would but remember how many excellent pleasures, how many elevating pursuits, how many of the worthiest ends are quite independent of mere material wealth; if they would but consider the ambitions which best become our better nature; if they would but think how truth, and love, and constancy, and self-sacrifice are oftenest most beautifully developed in an atmosphere of poverty; if they would but reflect that no bankruptcy can deprive them of the charms of nature, of the gratifications of study, of the happiness of home, they might be less eager in the pursuit of wealth, and less inconsolable for the loss of it. But we have forgotten the better half of the lesson which Dr. Franklin taught us. We are willing enough to thrive luxuriantly, but we are not willing to enjoy moderately. It is safe to say that none of the admonitions of that fine old man, which are oftenest quoted in defense of acquisition, referred to enormous aggregations of private wealth such as in our day have become almost too common for notice. Happy is he who can hit upon the happy medium; who can fairly decide for himself the relative value of different schemes of life; and who can be content with poverty if it be his portion, or wise in the use of wealth should it be vouchsafed to him .- New York Tribuns.

THE PERIL OF THE LIQUOR TRAFFIC.— The peril to society and the nation at large from the presence of drunkenness, and causes which produce drunkenness, is not that individuals may suffer, or families be broken up. No personal suffering, however acute, no private overthrow, however disastrous, can guage this gigantic evil, or express the peril. the danger is this, that there exists in society a traffic at war with every legitimate business, and which fattens itself on the loss of all other trades and pursuits; that this traffic is so systematized that if feeds with an omnipresent supply every evil temper and violent passion of the human heart, and is able, even now, to mold it to its own liking the legislation of the country. These propositions contain, in my opinion, the gravamen of the charge which may justly, and without exaggeration, be brought against this traffic. They constitute a platform broad enough for business men, philanthropists, and statesmen to stand harmoniously upon. Here the several elements of interest, humanity, and patriotism can unite, and, mingling, form a strong and not easily-resisted current of reform .- Rev. W. H. Murray.

OUR STUDIES IN PHYSIOLOGY.

FOURTH STUDY. *

HOW TO EXAMINE THE BLOOD.

IN order to become properly acquainted with the characters of the blood, it is necessary to examine it with a microscope magnifying at least three or four hundred diameters. Provided with this instrument, a hand lens, and some slips of thick and thin glass, the student will be enabled to follow the present lesson.

The most convenient mode of obtaining small quantities of blood for examination, is to twist a piece of string, pretty tightly, around the middle of the last joint of the middle, or ring finger, of the left hand. The end of the finger will immediately swell a little, and become darker colored, in consequence of the obstruction to the return of the blood in the veins caused by the When in this condition, if it be slightly pricked with a sharp clean needle (an operation which causes hardly any pain), a good-sized drop of blood will at once exude. Let it be deposited on one of the slips of thick glass, and covered lightly and gently with a piece of the thin glass, so as to spread it out evenly into a thin layer. Let a second slide receive another drop, and let it be put under an inverted tumbler so as to keep it from drying. Let a third drop be dealt with in the same way, a few granules of common salt being first added to the drop.

BLOOD UNDER THE MICROSCOPE.

To the naked eye the layer of blood upon the first slide will appear of a pale reddish color, and quite clear and homogeneous. But on viewing it with even a pocket lens its apparent homogeneity will disappear, and it will look like a mixture of excessively fine yellowish-red particles, like sand or dust, with a watery, almost colorless fluid. Immediately after the blood is drawn the particles will appear to be scattered very evenly through the fluid, but by degrees they aggregate into minute patches, and the layer of blood becomes more or less spotty.

CORPUSCLES.

The particles are what are termed the corpuscles of the blood; the nearly colorless fluid in which they are suspended is the plasma.

The second slide may now be examined. The

drop of blood will be unaltered in form, and may perhaps seem to have undergone no change. But if the slide be inclined, it will be found that the drop no longer flows; and, indeed, the slide may be inverted without the disturbance of the drop, which has become solidified, and may be removed with the point of a penknife, as a hemispherical gelatinous mass. The mass is quite soft and moist, so that this setting or coagulation, of a drop of blood is something very different from its drying.

On the third slide, this process of coagulation will be found not to have taken place, the blood remaining as fluid as it was when it left the body. The salt, therefore, has prevented the coagulation of the blood. Thus this very simple investigation teaches that the blood is composed of a nearly colorless plasma, in which many colored corpuscles are suspended; that it has a remarkable power of coagulating; and that this coagulation may be prevented by artificial means, such as the addition of salt.

If, instead of using the hand lens, the drop of blood on the first slide be placed under the microscope, the particles or corpuscles of the blood will be found to be bodies with very definite characters, and of two kinds called respectively the red corpuscles and the colorless corpuscles. The former are much more numerous than the latter, and have a yellowish-red tinge; while the latter, somewhat larger than the red corpuscles, are, as their name implies, pale and devoid of coloration.

The corpuscles differ also in other and more important respects. The red corpuscles are flattened circular disks, on an average one thirty-two hundredth of an inch in diameter, and having about one-fourth of that thickness. It follows that rather more than ten million of them will lie on a space one inch square, and that the volume of each corpuscle does not exceed one one-hundred-and-twenty-thousand-millionth of a cubic inch.

The broad faces of the disks are not flat, but somewhat concave, as if they were pushed in toward one another. Hence, the corpuscle is thinner in the middle than at the edges, and when viewed under the microscope by transmitted light, looks clear in the middle and darker at the edges, or dark in the middle and clear at the edges, according to circumstances.

^{*}Our Studies in Physiology are condensed from Prof. T. H. Huxley's English works, not published here.

When, on the other hand, the disks roll over and present their edges to the eye, they look like rods. All these varieties of appearance may be made intelligible by turning a round biscuit or muffin, bodies similar in shape to the red corpuscles, in various ways before the eye.

The red corpuscles are very soft, flexible, and elastic bodies, so that they readily squeeze through apertures and passages narrower than their own diameters, and immediately resume their proper shapes. The exterior of each corpuscle is denser than its interior, which contains a semi-fluid, or quite fluid matter, of a red color, called hæmoglobin. By proper processes this may be resolved into an albuminous substance termed globulin, and a peculiar coloring matter which is called hæmatin. The interior substance presents no distinct structure.

From the density of the outer as compared with the inner substance of each corpuscle, they are, practically, small flattened bags or sacs, the form of which may be changed by altering the density of the plasma. Thus, if it be made denser by dissolving saline substances or sugar in it, water is drawn from the contents of the corpuscle to the dense plasma, and the corpuscle becomes still more flattened. On the other hand, if the plasma be diluted with water, the latter forces itself into and dilutes the contents of the corpuscle, causing the latter to swell out, and even become spherical; and, by adding dense and weak solutions, the corpuscles may be made to become successively spheroidal and discoidal. Exposure to carbonic acid gas seems to cause the corpuscles to swell out; oxygen gas, on the contrary, appears to flatten them.

The colorless corpuscles are larger than the red corpuscles, their average diameter being one twenty-five-hundredth of an inch. They are further seen, at a glance, to differ from the red corpuscles by the extreme irregularity of their form, and by their tendency to attach themselves to the glass slide, while the red corpuscles float about and tumble freely over one another.

A still more remarkable feature of the colorless corpuscles than the irregularity of their form is the unceasing variation of shape which they exhibit. The form of a red corpuscle is changed only by influences from without, such as pressure, or the like; that of the colorless corpuscle is undergoing constant alteration, as the result of changes taking place in its own substance. To see these changes well, a microscope with a magnifying power of five or six hundred diameters is requisite; and, even then, they are so gradual, that the best way to ascertain their existence is to make a drawing of a given colorless corpuscle at intervals of a minute or two.

Careful watching of a colorless corpuscle, in fact, shows that every part of its surface is constantly changing—undergoing active contraction, or being passively dilated by the contraction of other parts. It exhibits contractility in its lowest and most primitive form.

While they are thus living and active, no correct notion can be formed of the structure of the colorless corpuscles. By diluting the blood with water, or still better, with water acidulated with acetic acid, the corpuscles are killed, and become distended, so that their real nature is shown. They are then seen to be spheroidal bags or sacs, with very thin walls; and to contain in their interior a fluid which is either clear or granular, together with a spheroidal vesicular bcdy, which is called the nucleus. It sometimes, though very rarely, happens that the nucleus has a red tint.

The sac-like colorless corpuscles with its nucleus, is what is called a nucleated cell. It will be observed that it lives in a free state in the plasma of the blood, and that it exhibits an independent contractility. In fact, except that it is dependent for the conditions of its existence upon the plasma, it might be compared to one of those simple organisms which are met with in stagnant water, and are called amæbæ.

That the red corpuscles are in some way or other derived from the colorless corpuscles may be regarded as certain; but the steps of the process have not been made out with perfect certainty. There is very great reason, however, for believing that the red corpuscles is simply the nucleus of the colorless corpuscle somewhat enlarged; flattened from side to side; changed by development within its interior of a red coloring matter; and set free by the bursting of the sac or wall of the colorless corpuscle. In other words, the red corpuscle is a free nucleus.

The origin of the colorless corpuscles themselves is not certainly determined; but it is highly probable that they are constituent cells of certain parts of the solid substance of the body which have been detached and carried into the blood, and that this process is chiefly effected in what is called the ductless glands, from whence the detached cells pass, as lymph-corpuscles, directly or indirectly, into the blood.

FIBRIN OF THE BLOOD.

When the layer of blood has been drawn ten or fifteen minutes, the plasma will be seen to be no longer clear. It then exhibits multitudes of extremely delicate filaments of a substance called fibrin, which have been desposited from it, and which traverse it in all directions, uniting with one another and with the corpuscles, and binding the whole into a semi-solid mass.

It is this deposition of fibrin which is the cause of the apparent solidification or coagulation of the drop upon the second slide; but the phenomena of coagulation, which are of very great importance, can not be properly understood until the behavior of the blood, when drawn in larger quantity than a drop, has been studied.

When, by the ordinary process of opening a vein with a lancet, a quantity of blood is collected into a basin, it is at first perfectly fluid; but in a quarter of an hour, and sometimes in less than half that time, it separates into two very different constituents—the one a clear, yellowish liquid, the other a red, semi-solid mass, which lies in the liquid, and at the surface is paler in color and firmer than in its deeper part.

The liquid is called the serum; the semi-solid mass the clot or crassamentum. Now the clot obviously contains the corpuscles of the blood, bound together by some other substance; and this last, if a small part of the clot be examined microscopically, will be found to be that fibrouslooking matter fibrin, which has been seen forming in the thin layer of blood. Thus the clot is equivalent to the corpuscles plus the fibrin of the plasma, while the serum is the plasma minus the fibrinous elements which it contained.

The corpuscles of the blood are slightly heavier than the plasma, and therefore, when the blood is drawn, they sink very slowly toward the bottom. Hence the upper part of the clot contains fewer corpuscles, and is lighter in color than the lower part-there being fewer corpuscles left in the upper layer of plasma for the fibrin to catch when it sets. And there are some conditions of the blood in which the corpuscles run together much more rapidly and in denser masses than usual. Hence they more readily overcome the resistance of the plasma to their falling, just as feathers stuck together in masses, fall much more rapidly through the air than the same feathers When this is the case, the when loose. upper stratum of plasma is quite free from red corpuscles before the fibrin forms in it; and, consequently, the uppermost layer of the clot is nearly white; it receives the name of the buffy coat.

After the clot is formed, the fibrin shrinks and squeezes out much of the serum contained within its meshes; and, other things being equal, it contracts the more the fewer corpuscles there are in the way of its shrinking. Hence, when the buffy coat is formed, it usually contracts so much as to give the clot a cup-like upper surface.

Thus the buffy coat is fibrin naturally separated from the red corpuscles; the same separation may be effected, artificially, by whipping the blood with twigs as soon as it is drawn, until its coagulation is complete. Under these circumstances the fibrin will collect upon the twigs, and a red fluid will be left behind, consisting of the serum plus the red corpuscles, and many of the colorless ones.

The coagulation of the blood is hastened, retarded, or temporarily prevented by many circumstances.

Temperature.—A high temperature accelerates the coagulation of the blood; a low one retards it very greatly; and some experimenters have stated that, when kept at a sufficiently low temperature, it does not coagulate at all.

The Addition of Soluble Matter to the Blood.— Many saline substances, and more especially sulphate of soda and common salt, dissolved in the blood in sufficient quantity, prevent its coagulation; but coagulation sets in when water is added, so as to dilute the saline solution

Contact with Living or Not Living Matter.—Contact with not living matter promotes the coagulation of the blood. Thus blood drawn into a basin, begins to coagulate first where it is in contact with the sides of the basin; and a wire introduced into a living vein will become coated with fibrin, although perfectly fluid blood surrounds it.

On the other hand, direct contact with living matter retards, or altogether prevents the cosquiation of the blood. Thus blood remains fluid for a very long time in a portion of a vein which is tied at each end.

The heart of a turtle remains alive for a lengthened period (many hours or even days) after it is extracted from the body; and so long as it remains alive, the blood contained in it will not coagulate, though, if a portion of the same blood be removed from the heart, it will coagulate in a few minutes.

Blood taken from the body of the turtle, and kept from coagulating by cold for some time, may be poured into the separated, but still living heart, and then will not coagulate.

Freshly deposited fibrin acts somewhat like living matter, coagulable blood remaining fluid for a long time in tubes coated with such fibrin.

THICKNESS OF BLOOD.

The proverb that "blood is thicker than water" is literally true, as the blood is not only "thickened" by the corpuscles, of which it has been calculated that no fewer than seventy thousand million (eighty times the number of the human population of the globe) are contained in a cubic inch, but is rendered slightly viscid by the solid matters dissolved in the plasma. The blood is thus rendered heavier than water, its specific gravity being about 1065. In other words, twenty cubic inches of blood have about the same weight as twenty-one cubic inches of water.

The corpuscles are heavier than the plasma, and their volume is usually somewhat less than that of the plasma. Of colorless corpuscles there are usually not more than three or four for every thousand of red corpuscles; but the number varies very much, increasing shortly after food is taken, and diminishing in the intervals between meals.

The blood is hot, its temperature being about 100° Fahrenheit.

COMPOSITION OF BLOOD.

In every one hundred parts of blood there are seventy-nine parts of water and twenty-one parts of dry solids; in other words, the water and the solids of the blood stand to one another in about the same proportion as the nitrogen and the oxygen of the air. Roughly speaking, one-quarter of the blood is dry, solid matter; three-quarters water. Of the twenty-one parts of dry solids, twelve (equal to four-sevenths) belong to the corpuscles. The remaining nine are about two-thirds (6.7 parts equal to two-sevenths) albumen (a substance like white of eggs, coagulating by heat), and one-third (equal to oneseventh of the whole solid matter) a mixture of saline, fatty, and saccharine matters, sundry products of the waste of the body and fibrin. The quantity of the latter constituent is remarkably small in relation to the conspicuous part it plays in the act of coagulation. Healthy blood, in fact, yields, in coagulating, not more than from two to four parts in a thousand of its weight of fibrin.

The total quantity of gaseous matter contained in the blood is equal to rather less than half the volume of the blood; that is to say, one hundred cubic inches of blood will contain rather less than fifty cubic inches of gases. These gaseous matters are carbonic acid, oxygen, and nitrogen; or, in other words, the same gases as those which exist in the atmosphere, but in totally different proportions; for whereas air

contains nearly three-fourths nitrogen, onefourth oxygen, and a mere trace of carbonic acid, the average composition of the blood gases is nearly two-thirds carbonic acid, rather less than one-third oxygen, and not one-tenth nitrogen.

It is important to observe that blood contains much more oxygen gas than could be held in solution by pure water at the same temperature and pressure. This power of holding oxygen appears in some to depend upon the corpuscles, firstly, because mere serum has no greater power of absorbing oxygen than pure water has; and secondly, because a solution of hamoglobin absorbs oxygen very readily. It is further to be remarked, that some substances which are capable of being oxidated with great readiness-such as pyrogallic acid—are not effected by their passage through the blood. Thus it would appear that the oxygen is not quite free, but is held in some sort of loose chemical combination with a constituent of the blood contained in the corpuscles.

The corpuscles differ chemically from the plasma, in containing a large proportion of the fats and phosphates, all the iron, and almost all the potash of the blood; while the plasma, on the other hand, contains by far the greater part of the chlorine and the soda.

The blood of adults contains a larger proportion of solid constituents than that of children, and that of men more than that of women; but the difference of sex is hardly at all exhibited by persons of flabby, or what is called lymphatic constitution.

Animal diet tends to increase the quantity of the red corpuscles; a vegetable diet and abstinence to diminish them. Bleeding exercises the same influence in a still more marked degree, the quantity of red corpuscles being diminished thereby in a much greater proportion than that of the other solid constituents of the blood.

QUANTITY OF BLOOD IN THE BODY.

The total quantity of blood contained in the body varies at different times, and the precise ascertainment of its amount is very difficult. It may probably be estimated, on the average, at not less than one-tenth of the weight of the body.

USE OF THE BLOOD.

The function of the blood is to supply nourishment to, and take away all waste matters from, all parts of the body. It is absolutely essential to the life of every part of the body that it should be in such relation with a current of blood, that matters can pass freely from the blood to it, and from it to the blood, by transudation through the walls of the vessels in which the blood is contained. And this vivifying influence depends upon the corpuscles of the blood. The proof of these statements lies in the following experiments: If the vessels of a limb of a living animal be tied in such a manner as to cut off the supply of blood from the limb without affecting it in any other way, all the symptoms of death will set in. The limb will grow pale and cold, it will lose its sensibility, and volition will no longer have power over it; it will stiffen, and eventually mortify and decompose.

But, even when the death stiffening has begun to set in, if the ligatures be removed, and the blood be allowed to flow into the limb, the stiffening speedily ceases, the temperature of the part rises, the sensibility of the skin returns, the will regains power over the muscles, and, in short, the part returns to its normal condition.

If, instead of simply allowing the blood of the animal operated upon to flow again, such blood, deprived of its fibrin by whipping, but containing its corpuscles, be artificially passed through the vessels, it will be found as effectual a restorative as entire blood; while, on the other hand, the serum (which is equivalent to whipped blood without its corpuscles) has no such effect.

TRANSFUSION OF BLOOD.

It is not necessary that the blood thus artificially injected should be that of the subject of the experiment. Men or dogs bled to apparent death, may be at once effectually revived by filling their veins with blood taken from another man or dog, an operation which is known by the name of transfusion.

Nor is it absolutely necessary for the success of this operation, that the blood used in transfusion should belong to an animal of the same species. The blood of a horse will permanently revive an ass, and, speaking generally, the blood of one animal may be replaced without injurious effects by that of another closely-allied species; while that of a very different animal will be more or less injurious, and may even cause immediate death.

The lymph which fills the lymphatic vessels is, like the blood, an alkaline fluid, consisting of a plasma and corpuscles, and coagulates by the separation of fibrin from the plasma. The lymph differs from the blood in its corpuscles being all of the colorless kind, and in the very small proportion of its solid constituents, which amount to only about five per cent. of its weight.

Lymph may, in fact, be regarded as blood minus its red corpuscles, and diluted with water, so as to be somewhat less dense than the serum of blood, which contains about eight per cent. of solid matters.

SOURCE OF THE BLOOD.

A quantity of fluid equal to that of the blood is probably poured into the blood daily from the lymphatic system. This fluid is in great measure the mere overflow of the blood itself—plasma which has exuded from the capillaries into the tissues, and which has not been taken up again into the venous current; the rest is due to the absorption of chyle from the alimentary canal.

WHY GIRLS WEAR CHIGNONS.—If Henry III covered his diseased dissipation with a wig, it was incumbent on healthy gentlemen to put themselves to the same inconvenience! Louis XIV, not being so tall as he considered desirable for royal stature, mounted himself on very high-heeled shoes, and ere long all the ladies and gentlemen in Europe deemed it necessary to toddle about in the same style. The Empress Eugenia had her hair rolled over hot irons, and twisted and puffed and frizzled till it grew thin under such manifold manipulations; then she began to supply the deficiency by masses of false hair, and, in consequence thereof, the girls in far-off, sensible New England feel obliged to deform their pretty heads with those ugly excrescences called chignons .- L. Maria Child.

Domestic Economy. — Few will deny that the various departments of domestic economy demand science, training, and skill, as much as any of men's professions. But the world has yet to see the first invested endowment to secure to woman's profession what has been so bountifully given to men. Never yet has a case been known of a highly-educated woman supported by an endowment to train her sex for any one department of woman's profession. Such favors being withheld, the distinctive profession of woman is undervalued and despised. To be a teacher of young children would be shunned by the daughter of wealth, as lowering her social position. To become a nurse of the sick for a livelihood, or a nurse of young children would be regarded as a degradation; while to become a domestic assistant in the family state would be regarded as the depth of humiliation by many in high social position.—C. E. Beecher.

EDITORIAL DEPARTMENT.



NEW YORK, APRIL, 1870.

WATER.

"To the days of the aged it addeth length; To the might of the strong it addeth strength; It freshens the heart, it brightens the sight; 'Tis like quaffing a goblet of morning light.'

BIF THE PUBLISHERS do not hold themselves as indorsing every article which may appear in THE HERALD.

They will allow the largest liberty of expression, believing that by so doing this magasine will prove to be more useful and acceptable to its patrons.

BF Exchanges are at liberty to copy from this magazine by giving due credit to The Herald of Health and Journal of Physical Culture.

TOPICS OF THE MONTH.

BY M. L. HOLBROOK, M. D., EDITOR.

LITERARY GYMNASTS. "What folly is it then," says Herbert Spencer, "while finishing the engine, so to damage the boiler that it will not generate steam." A college course is simply a dignified and rather stylish way of feeding a man's engine, to wit, his intellect; and until within a very recent period, this process of finishing the engine has gone forward, in all our colleges, at the cost of such damage to the boiler, to wit, the body, that when all was beautifully completed, there was in many cases no propelling force to make the machine work; and the whole was a dead failure. For what failure can be more absolutely a dead one, than that of an exquisite, most ingenious highly pol-

ished engine without any "go' in it. And in our opinion, that is about the best definition that can be given of one of these melancholy human failures so common in the world-a college graduate who amounts to nothing in life; he is a machine without any "go" in him. We suppose it was precisely these elegant nonentities, these ornamental incumbrances, that our friend Horace Greeley had in mind, when he spoke of thirty thousand graduates of our colleges as walking the stony streets of New York in great uncertainty about the next meal. It is not our intention to assert that the incapacity of all of these educated ciphers could have been averted by any change in our college systems. That would imply that Art could grant what Nature had denied. Yet it is our belief that a very large number of the college graduates who have. failed in life, might have had triumphant lives: instead of thwarted and unfruitful ones, if during their college days, the energies of their na-. tures had been cultivated by a wholesome, method of physical exercise.

This is a subject to which we have manytimes hitherto directed the attention of our readers; and we refer to it once more on account: of the text furnished us by a report recently published on a "Department of Hygiene and Physical Culture" in Michigan University.

This repert goes over the ground more thoroughly than has been done in any other document which has come under our notice.

The primary object of the report appears to be to demolish at one stroke all the objections that can be urged by anxious parents and others against the practice of gymnastics in colleges. The method of demolition is this: the careful collection of testimony from the colleges that have actually tried the experiment.

It must be obvious, that while in the realm: of theory, the controversy about the benefits of: a college gymnasium is almost endless. It can hold out as long as human obstinacy and human lungs and human stupidity choose to operate. But if you try the question on the simple issue of facts, there is some chance of reaching a conclusion.

The first and most elaborate portion of the report before us is a plain array of the facts furnished by actual experience in the working of gymnasiums at Yale, Williams, Amherst, and Dartmouth.

It appeared to the committee that the experience of these colleges was to be sought as to the effects of a Department of Physical Culture in three particulars:

- Upon the physical condition of the students.
 - 2. Upon the scholarship of the students.
- Upon the morals and general behavior of the students.

Under the first head the committee made three inquiries: first, whether any serious accidents had occurred in the gymnasium; second, whether there had been any cases of injury from over-practice; third, whether any improvement had taken place in the general health of the students.

These sentences will reveal how minute and searching were the investigations made; and the testimony submitted in reply to these inquiries—testimony given by such men as President Asa D. Smith, President Mark Hopkins, Profs. Edward Hitchcock and F. G. Welch, and Dr. Nathan Allen—is so emphatic, distinct, and abundant, as to be quite overwhelming. No jury could hesitate over its vardict in the light of such evidence. It says not one word of abstractions; but by a simple rehearsal of facts, it utterly annihilates doubt and opposition.

Having satisfactorily disposed of all questions pertaining to the effects of gymnastics upon the physical condition of the students, the committee next inquired concerning the effects of gymnastics upon scholarship. The question is often raised whether the gymnasium might not prove a distraction from study, and especially whether some young men might not become so proud

of their success as athletes, as to disregard the pursuits of the mind. Lest any indistinctness might be left lingering over this branch of the subject, the committee inserted this specific question into the list of inquiries sent to the different colleges: "Are the great gymnasts apt to be satisfied with that eminence, to the neglect of study?"

Here, again, the experience of the colleges is a complete dispeller of doubts, and shows that a well-conducted gymnasium adds a great percentage to the intellectual efficiency of the students.

Finally, the report culminates in the deeply interesting evidence which it contains, as to the benign influence of gymnastic exercises upon the moral tone and manners of the students.

Having, in the first part of the report, cleared the ground of all possible objections to gymnastics in colleges, and having established very strong positive evidence in their favor, the committee then address themselves to those practical topics.

- The sort of building required for a gymnasium.
- 2. The qualifications and duties of the Professor of Physical Culture.
- 8. The relation which the Department of Physical Culture should hold to the students, particularly as to the exercises being made compulsory.

The foregoing synopsis will sufficiently indicate to our readers the tendency of our best colleges in the direction of physical training.

It is pleasant to be able to mention, that that tendency is now almost omnipotent, and that its spirit and direction is wholesoms.

Much remains to be done in developing the practical details of the subject; and each college must find out the methods best adapted to itself. But one thing is finally settled. Public opinion will regard any college as fatally defective, which hereafter ignores the claim of the body upon the provident care of educators.

We shall all be interested in watching the experiment which is now being tried in the beautiful edifice lately erected at Princeton.

We expect to see something done at Cornell University worthy of the character which that young and gigantic establishment has already made for itself. It will gratify us, also, to learn that the money needed for this work at Michigan University is fully provided, either by public or by private bestowment.

Meantime, the good cause of a wholesome philosophy moves on. The era of emaciated, hectic, bilious, drooping, sickly scholars has departed. The age demands men—educated men, and no man is educated whose mind has been trained at the expense of his body. The scholars, thinkers, editors, teachers, orators of the future must be healthy minds, upborne through the conflicts of a life-time by the vigor and the valor of healthy bodies.

BE HELPFUL.—The disparity which is apt to be observed between the higher and lower classes in every community is largely due to the different advantages enjoyed by each. Wealth confers leisure, and leisure affords opportunity for personal culture. Poverty is a species of servitude. If abject, it is terribly depressing to the whole nature. Overwork pinches the fine organs of the brain, and unfits the mind for any but the meanest tasks. Insufficient food impoverishes the blood and makes all the manifestations of character feeble and spiritless. Shabby or unsuitable clothing is prejudicial to self-respect. Indeed, the poor are so beset with temptations, and obstacles, and hindrances on every side, that it is a miracle when one succeeds in living nobly.

Our first duty to the suffering classes is to help them to enter upon more favorable conditions. The wants of the physical nature must be supplied before the spiritual can be attended to. Remove the incubus of poverty, and the mind will presently rise by its own elasticity.

In rural districts, where habits of industry and economy prevail, there may be no cases of absolute destitution. But even in the most thrifty community, might not some, perhaps many persons be found, who would be better for a little timely help, or, at least, sympathy? Might not a diligent search bring to light some cases of honorable and struggling poverty-of persons whose life is slowly wearing away in an incessant struggle with difficulties and burdens too great for them to bear; whose spirit is broken with cares, labors, and discouragements, so that they have no longer any heart for studies or culture-sensitive people, who once longed to rise in the world, to be worthy of the world's esteem, but now, defeated in their aims, they have settled down in utter hopelessness of any such result, because the year begins and ends with the same pitiless battle against want-a battle in which they never come off victorious? Schools, churches, and good society have attractions for them still; but they feel themselves outside the pale of these humanising influences-outcasts, without reputation, or the ability to make a decent appearance among their more fortunate equals.

It may be that but few of those who shall peruse these lines are rich, in the common acceptation of that term; most of our readers undoubtedly know by experience the burden of labor, and the pressure of need; yet few it is to be feared comprehend the desolateness and the danger of the condition we have attempted to describe. It is a terrible evil-who shall say how terrible-where a sensitive soul, ambitious to rise and fulfill a noble destiny, conscious of ability to achieve a worthy work in the world, finds itself at last, after repeated and ever-failing struggles, hemmed in on every side, and cramped and stifled by poverty and the oppressien of the great selfish, indifferent world. If our lot is more fortunate, ought we not to be on the watch for such cases? And whenever we see them struggling in silence and seclusion, as they are apt to do, ought we not to proffer them a helping hand? Ought we not to insist upon sharing their burden; not, indeed, with the noisy show of vainglorious liberality, but with the quiet advances of that fraternal charity which letteth not its left hand know what its right hand doeth.

Human arithmetic can not compute the value

of a moderate gift thus bestowed at the right moment upon a deserving person.

It has made many a mechanic, or tradesman, or farmer a successful man, and an ornament to society, who otherwise would have settled down into despair and utter thriftliness. It has saved many a noble intellect for the service of society in the circles of professional life or of literature, which, without it, would have sunk into some obscure cavern of uselesness and crime.

Nor is the luxury of this enlightened benevolence confined to the rich. You who have no money to give, give counsel, sympathy, support. A word fitly spoken at the right time has often saved a soul from death and covered a multitude of sins. If you have but a kind word, an encouraging smile, or a friendly pressure of the hand, to bestow upon any needy, struggling, tempted soul, give it freely, and trust gracious Heaven for the result. In the morning sow thy seed, and in the evening withhold not thy hand; for thou knowest not whether shall prosper either this or that."

"It is a little thing to speak a phrase
Of common comfort, which by daily use
Has almost lost its sense; yet on the ear
Of him who thought to die unnoticed, 't will fall
Like choicest music; fill the glazing eye
With gentle tears; relax the knotted hand
To know the bond of fellowship again;
And shed on the departing soul a sense
More precious than the benison of friends
About the honored death-bed of the rich,
To him who else were lonely—that another
Of the great family is near and feels."

DEATH OF AMSON BURLINGAME.—Since the publication of the March Herald of Heralth, we have the news of the death of the distinguished American, Anson Burlingame. We say American, for though he had become a citizen of the Chinese Empire, and was delegated by them with important missions to all the leading governments of the world, yet he was none the less an American for this. He died, we are informed, after a very brief illness,

with pneumonia. We have not the particulars of his sickness, nor do we know how he was treated, but we are sure few will differ with us in believing that his death was many years too soon, for he was of a vigorous constitution and in the prime of life. It can not be otherwise than that he in some way seriously violated the laws of life and health, to thus meet with an untimely end. We make this statement with sadness, for Mr. Burlingame was a man of great excellence, and deserved, as he has received, high rank as a diplomatist and citizen. Few will even forget his cutting rebuke to the bully and ruffian Brooks, the would-be murderer of Sumner in the Senate, and his course when challenged by that great coward to engage in a duel.

The numerous deaths of the eminent men and women we have lately been called upon to mention in connection with the cause of reform in matters pertaining to health, ought to teach all a lesson, a lesson concerning how we may live so as to reach the true age alloted to man, and not be cut off prematurely on account of sin against our bodies.

Youthful Deprayity.—It would not be amiss for our people to examine the Court Calendar of the City of New York, and see the number of mere boys enrolled among our dangerous classes. At one sitting, the City Judge sentenced seven boys to the penitentiary for terms varying from two to six years. Judge Garvin, in sentencing these young reprobates, remarked: "It is sad to perceive that all these boys, condemned as thieves and burglars, are not more than seventeen years of age."

It is sad, indeed, and should serve as a call to all well-wishers of our kind, to bestir themselves and arrest the terrible torrept of wickedness and crime rife in the midst of us. It will not be long before our great cities will be totally in the power of these bold, reckless Jack Shepards, and cumning, artful dodgers. Already the police have been detected in comiving at and participating in their evil doings, and those of them who are honest, have been knocked

down and murdered in more instances than one. Men are robbed in broad daylight, and women have had their jewelry torn from their persons, and yet] the perpetrators go unwhipped of justice.

", Our cultivated classes will need to learn that they are not guiltless in this wide-spread, increasing reign of disorder and orime. It is said Nero fiddled while Rome was burning, and our wealthy citisens are dancing, fiddling, sinning covertly, and encouraging vice by their own luxury, while this fearful volcano of crime is surely, if slowly, accumulating its fires of destruction. It is nothing less than vanity and foolishness, if nothing worse, for women to parade their jewels in the street, and if they will do it they must run the hazard of peril to themselves.

The appliances of wealth are certainly to be desired, but they are to the best degree childish and effeminate when made use of only to gratify a weak love of display or selfish indulgence. Our people need some great incitement-some noble aspiration, in which we are sadly deficient. Now the ambition of the young is to lead a life of luxury, idleness, and splendor; a desire totally destructive to all that is manly, noble, or humanizing in character. Our pulpits cater too much to this love of excitement, and is widely depositing from that primitive simplicity, purity, and Christ-like contempt of the world, which alone will render it a bulwark of good to society. Our periodical press stoops down to join this whirl of giddy, sensational literature, which aims at notoriety, irrespective of the tendency of what it promulgates, and thus our moral teachers are familiarizing the public mind with crime, and confusing the lives which separate wrong from right doing. Beneath all this, the ignorant and depraved enjoy a perfect carnival of crime, unrebuked, if not countenanced by those who should be our aiders in all that is good and true, and so our penitentiaries are crowded with victims, and men and women live in fear and trembling, or in blind contempt of their danger.

What will be the end!

PHYSICAL CULTURE THE BASIS OF SPIR-ITUAL.-No human interests are more important or sacred than those which pertain to the body. Upon the proper training and development of this all higher interests depend. We are profoundly convinced that the cause of human improvement, social, moral, and religious, can in no way be more effectually promoted than by the radical investigation of those topics to which this journal is especially devoted. We regard the work in which we are engaged as, in a most important sense, auxiliary to that of the teacher and the clergyman. The moral and intellectual status of man is grounded in the material, and generally advances along with that. If we are to have any great and permanent improvement in the former, we must begin with making some radical changes in the latter. What teacher has not felt the hopeless character of his task, when required to make scholars and gentlemen out of the thick-skulled, smallbrained specimens of juvenile humanity that are sometimes placed under his care! And what minister, alive to the character and conditions of his work, does not see how useless is the effort to make spiritually-minded, noble men and women of people who persist in neglecting bodily cleanliness, who are content to breathe a polluted atmosphere in their dwellings, schools, and churches, who habitually fill their stomachs with gross foods and drinks, and poison all the channels of life with rum and tobacco! How many such there are in all our churches and congregations, who thus live in habitual violation of the plainest laws of God, and yet call themselves Christians! Excellent people, no doubt many of them are, though clearly not in the way of progress.

There can be no high, sustained, and healthy spiritual life here on earth, except in connection with habits of wise bodily discipline. Our religion can never be any thing but a poor, puny, sickly growth, a mere effervescence of sentimentalism, until it is based on strict obedience to all the laws of our being, organic as well as spiritual. The Holy Spirit can not work an impossibility. It can do little for the souls of men

so long as these are kept under by depressing influences of vitiated bodily conditions. The temple must be cleansed, or the celestial visitant will not abide.

The regeneration of which there is just now the most crying need, is physical. Men need, first of all, to be better born; then all the rest will come easier. They need to inherit larger, and better-balanced brains, more harmonious temperaments, and greater vitality. In that case, the work of the teacher and of the preacher would be vastly more simple, and successful, and pleasant. Instead of spending all of their energies in trying to arouse in others some feeble movements of mental and spiritual life, their more pleasing task would be to watch over the natural and timely unfoldings of vigorous germs already implanted. People would not require to be exhorted to become moral and religious; they would naturally become so. Children would insensibly grow up in beautiful babits of virtue and piety. At the proper age they would experience that inward unfolding of the spiritual powers which is the crowning excellence and glory of man, and which marks the beginning of the true human life. Meanwhile, dear reader, let us work on with patience, seeking wisdom, and hoping better things for ourselves and our race.

DEATH OF REV. DR. McCLINTOCK.—
We had hardly laid aside our pen from writing of the death of Mr. Burlingame, before we hear the sad news of the death of Rev. Dr. McClintock, a brilliant scholar, a most excellent man, and one of the pillars in the Methodist Church. At the time of his death he was President of Drew Theological Seminary, and about 56 years of age. In speaking of him, The New York Independent says:

"The chief encomium which the career of Dr. McClintock justly elicits is the witness which he bore, during all his busy life, that he was perpetually making the most diligent use of all his faculties and opportunities. He seemed to be one of those few men who succeed in making as much of themselves as Nature originally de-

signed them to become. In other words, we are entitled to say that he lived, not only morally, but intellectually, a well-spent life. From this tribute the only possible detraction is a warning reference to his occasional (and, in late years, his too frequent) overwork. 'Studies,' says Lord Bacon, 'teach not their own use.' It is not every scholar who takes due heed of this saying. He who studies too much for his body studies too much for his mind. Dr. McClintock's mistake was that he burdened both his body and his mind with an overweight of many books. We are far from saying that he rudely worked himself to death; but, if he had divided his self-respect a little more equally between his brain and his frame, we believe that the bell of the Fourth Avenue Methodist Church would not now be tolling his funeral, and the Drew Theological Seminary would not new be mourning the loss of its President."

We do not, however, think that Dr. McClintock's habits of overwork were the immediate cause of his illness, for his disease, typhoid fever, is not the result of overwork. It is more likely to be caused by foul air or bad water, and perhaps clogging foud and imperfect depuration.

Few men, however, had a more deep-seated and truly-religious respect for the laws of health than Dr. McClintock. In his public sermons we have heard him declare most emphatically, that sickness is quite as much a sin against the good laws of God, as lying, or stealing, or cheating, and that premature death is only another name for suicide.

Dr. McClintock was a profound scholar, a keen logician, a man of brilliant wit, gentle, affectionate, devout, ardent, and of energy almost exhaustless. What he sought to accomplish he never failed to do. His loss will not soon be replaced.

GENERAL DEBILITY AMONG PEAR TREES.

—The editor of The Gardeners' Monthly says that general debility is a disease of pear trees, as well as of men and women. Dr. Horatio Wood has also shown this statement to be true. With his microscope he has discovered that many

pear blossoms do not mature because there is no pollen in the anthers of the flowers. The same has been found to be true of some of the wild blackberries of Europe, and, no doubt, it is also true of the blossoms of many young apple and peach trees.

Who are Our Criminals?—The Examiner and Chronicle in answer to the question "are our people growing worse?" tries to prove that the most of our criminals are so, because they are Catholics and haters of Protestantism. We think this quite untrue. It is liquor that causes most of the crime, want, and beggary of our large cities. This is a fact so well known, that it is quite unnecessary to comment upon it. Dry up the liquor shops of any city and you will at once dry up the most potent manufacture of criminals that can be found. This has been proved many times. Bessbrook, a model town, of which we gave an account in this monthly in November, 1867, is a notable example among the Irish of the decrease of crime with the disuse of alcoholic liquors. Vineland is another example in this country. Let us ascribe to their proper causes the crimes that abound, when their removal will be more easy.

PALPITATION OF THE HEART.-There are probably few persons who have not at some time in their lives had, if not for more than a moment, palpitation of the heart. The disease is dependent on over-excitement of the nerves of this organ, usually it lasts but a few moments, but cases are on record of its continuing eight days at the rate of 160 beats to the minute. Where not caused by disease of the heart or its valves, it is not a dangerous affection. The best treatment is perfect quiet and composure in a recumbent posture. If it continues long, apply hot compresses over the region of the heart changing them often. To prevent their occurrence avoid over-exertion, tight clothing, nervous excitement, a crowded or unventilated room, and, above all, loading the stomach with indigestible articles of food. We have known

many instances of palpitation cured by adopting plain, simple habits of life.

Moist Air and Health.—Air that is saturated with moisture, and at the same time loaded with noxious gases, sadly interferes with the escape of moisture from the lungs and skin, and the effect on the body is very much the same as smothering a fire is on its combustion. The moisture can not escape with its load of gases, and their retention oppresses the body very much, reducing the ability to use the muscles and producing a feverish state, which becomes very distressing. When the air is pure and dry, the gases of the body escapes rapidly, and a much better state of health is maintained in consequence.

A LAKE ON FIRE.—The Islands of the Caspean See abound in springs of naphtha. In July of last year these wells overflowed, and the naphtha, running into the sea, caught fire. For two days the fire raged over thousands of miles of surface of the sea, producing the most curious phenomenon of a sea on fire. Thousands on thousands of fishes were destroyed. These fishes will surely be deposited in the strata of some soil now forming, and who knows but they will be objects of study for some future geologist who may discover them. Heroditus mentions a tradition in his time that the surface of this sea had once been a sheet of flame, but we should hardly have accredited him had not recent experience verified his words.

HYGIENE FOR PEACH TREES.—Delicious peaches may be raised by the bushel under glass, and ripened in the winter and spring without any great expense to those who understand the art of managing such enterprises. The trees are best planted in tubs or boxes or pots, and housed during winter in a shed where the temperature is not down to the freezing point. No fire-heat is necessary, but the advantage of a warm position should be taken, so as to get the benefit of all the sun that can be secured.

The trees should be removed to the open air in spring as soon as the weather will permit.

CALUMNY AGAINST PROFESSOR E. P. EVANS.—Our pages have been enriched from time to time by instructive contributions from the pen of this distinguished scholar and author, so we do not consider it going out of the way to take a slight hand in a little scrimmage in which one of our own literary family has lately been engaged, with a very unworthy antagonist. If a man can choose his friends, it is not always possible for him to choose his enemies; and we do not know that Professor Evans is to be blamed because a very reckless and truthless person has seen fit to throw dirt at him. In a word, the story is this. About a year ago, the Professor published in the German language (which he, though an American, is a facile master of), through an eminent New York house, a history of German literature. All who know him are aware, that that is a subject in which he is a profound student and a great authority; and that to accuse him of stealing, bodily, the contents of his book about German literature, is as preposterous as it could be to say that Horace Greeley does not draw upon his own resources when he writes about Protection, or that Mr. Beecher furtively appropriates other people's property when he preaches in Plymouth pulpit. Yet this is the charge that has been trumped up against Professor Evans; and the fabricator of it has taken uncommon pains to circulate the indictment. We are highly pleased, though not at all astonished, to find that the accused has met his assailant, and has left him lying extremely flat and very cold. The points of the controversy are too many to go into here. We refer to it merely to chronicle the fact, that our esteemed contributor has taken no harm from a very foul slander upon his literary integrity.

How to Treat the Sick.

THE CAUSES AND TREATMENT OF ERY-SIPELAS.-Erysipelas may be considered a humoral and inflammatory disease proceeding from a vitiated state of the blood, and whether it be epidemic or spasmodic, this peculiar condition of the blood must be present. When it occurs as an epidemic, it is connected with some particular state of the atmosphere. The condition of the blood necessary to produce this disease is undoubtedly produced by intemperance in eating or drinking, or by using improper diet, such as swine's flesh, greasy sweet cakes or concentrated preparations of food largely indulged in, hot coffee and tea; also eating at irregular hours. And it will be found that persons accustomed to a free use of all kinds of food and drink, will develop the disposition to erysipelas, either in their own person, or in that of their offspring, and frequently in both.

Sudden changes of temperature, operating on a system inflamed by gross conditions, or obstructed by constipating food, tend to develop the disease.

The various causes which have been named as producing causes, merely call into action morbific humors previously produced by unhealthy food or intemperance in eating and drinking. And it may be observed that a meal, whether composed of improper, or of healthy food, eaten in excess, is most commonly followed, in erysipelatous habits, by a severe attack of the disease, while on the other hand, a strict attention to diet will lessen the severity of the disease, and often prevent its re-appearance

Although erysipelas is observed as comparatively confining itself to the true skin, I feel fully convinced that it very frequently is thrown upon internal organs, causing sudden and unexpected loss of life; and this may be the result of its recession from the surface, or it may primarily attack an internal organ, as sometimes happens in child-bed fever and other malignant forms.

TREATMENT.

In the chilly stage the vapor bath, or hot sitz bath should be used for twenty minutes, or until a free perspiration ensues, then sponge off with cool water and dry with a sheet, and after brisk dry hand rubbing cover up warmly in bed. When the fever rises, give a half pack for thirty minutes, or a cool sitz bath fifteen minutes; sponge off with cool water after the pack, and rub dry as before; keep a cool compress over the chest and abdomen, changed every hour during the fever. If necessary, move the bowels freely once a day by injections.

When the eruption appears, if accompanied by much heat and burning, steam the part affected twice a day; if the head is the part affected, cover it closely while steaming it, or take a vapor bath once a day, in the morning while the fever is down; use cool compresses constantly over the inflamed part, made of a wet towel of two or three thicknesses covered with a dry flanuel cloth, change frequently enough to allay the burning sensation. The fever should be controlled besides the general treatment, by sponging the body frequently without exposing the patient to cool air. Should there be a tendency to a recession of the eruption, a determination to the surface must be kept up, by drinking freely of hot water, and placing jugs of hot water to the feet, in order to produce a slight sweating, which must be kept up until relief is obtained, being careful of sudden exposures to cold.

When the eruption appears of a livid hue, foment the part thoroughly, with flannel cloths wrung out of as hot water as can be borne; change every five minutes for half an hour, follow with the cold compress; if there should be ulcerations, tepid water dressings should be constantly applied.

REGIME.

The room should be well ventilated and the clothing changed frequently; the patient should be kept as quiet as possible, and see but little company. The food must be light and simple in the early stage; rice water, barley water, panada, sago and wheatmeal gruel, should be used moderately. During convalescence, much depends upon the diet to prevent a relapse; toast, graham pudding, graham bread, baked potatoes or apples should be used; while grease, fat meats, milk, sausages, sweetmeats, raw fruits, preserves, acids and food that would cause acidity of the stomach should be avoided.

SEQUELÆ.

This disease, under drug treatment, often terminates in dropsical swelling, deep-seated ulceration of the cellular membrane, metases, to internal organs; and sometimes it suddenly disappears in one part and re-appears in a distant one. As the disease is caused by a vitiated condition of the blood, under Hygienic treatment the disease does not become so virulent, and we never have ulcers, dropsies, gangrene swellings and deaths. We aid nature in the effort of purification, and patients recover.—Dr. McCall.

INPARTINE DIBBAGES.—The following is extracted from Mrs. Dr. R. B. Gleason's new book, "Talks to My Patients," now in press. See advertisement on cover of this number.

"The impression that water treatment can not be applied to the wants of the weak and

well ones, is incorrect. Plunges, packs, douches, all cold, were a peculiar feature of the Priessnitz method, hence the name "coldwater cure" is often applied where hot or tepid baths are largely used. The temperature of the water may be so varied, and its use so regulated, as to soothe the slightest or the severest fever, and relieve chills, creeping or congestive, whatever the age of the sufferer.

If the little one has a cold, let it be put in a warm bath up to the chin, as warm as its sensitive skin will allow, which is usually about one hundred degrees; let the bath be five or ten minutes in duration and then be reduced to ninety degrees; then take out the little patient and rub it briskly. This should be done just before the nap, or the going to bed for the night, because, in either case, it is easier to keep the child warm, which is necessary.

When there is a feverish heat about the body, apply bandages of soft linen, two thicknesses, reaching from the armpits to the hips; over this two folds of flannel or thick cotton. While this is warm take care that the general surface is not chilled thereby. prevent this, put on a long sack or double gown. The bandage may be renewed during the night if the fever returns.

If the lips are dry, put a roll of wet linen to the mouth, or, if the gums are swollen, a small ball of pounded ice in a cloth for them to bite now and then, which will also soothe the little one.

In case of constipation or colic, an injection of water at ninety-eight degrees may be given, having a folded sheet or several napkins under the hips. As to the amount, judge from the ymptoms; pump slowly and as soon as here is an effort to expel on the part of the little patient, withdraw the tube.

If there is diarrhea, sitz baths are very beneficial, even to babies of a few months old. the water from ninety-five to eighty-five degrees, according to the strength and reactive power of the child; have the back and bowels washed, and the child will enjoy it even when quite feeble. The wet girdle, as above described, is of avail in such cases.

If there is griping or straining, injections of water at ninety-eight degrees remove acid matter and relieve inflammations. does not quiet the little one, we may give an anodyne injection of five or ten drops of laudanum in a table-spoonful of starch-water. Immediately after press a napkin over the anus for ten or fifteen minutes, so that it may be retained and absorbed.

Let the child live out of doors as much as possible; riding in a carriage, in the arms of a mother, is better for it than a baby wagon, when it is sick.

The daily bath for babies, when they are well, should be cool, ranging from ninety-five to seventy-five degrees, according to their reactive power; but when they are sick, the temperature should be modified to meet the symptoms, remembering that in fever the surface is more sensitive to cold, hence baths or bandages should be warm, so as not to shock the little patient, and make it dread what it might enjoy.

We took from the Orphan's Home a little girl very sick with cough and chronic diarrhea. Every thing in our bath-rooms being strange to her, she screamed as soon as she entered and went down into her warm bath as if she were descending into a flery furnace or a freezing flood. But finding the water comfortable, she grew calm, and ever after begged for baths and bandages. When her daily fever came on, she would say, "Me feel sick, please give me bath," and when it was over she would tell every one, " Me had nice bath : me feel better now."

Children who have grown up under water They will sit in a little tub or washbowl with | treatment will ask, when sick, for baths and bandages, their own sersations being often the best guide as to just what they need.

A child in a bath is always a sweet picture, and especially a pleasant one when the brightening face says, as well as the words, "Me feel better now."

By contrast see the subject for pills and casto oil, leying in strong arms, the mother trying to hold the nose together, and the tongue down, while she gives the pill which perhaps after all sticks between the teeth, or the oil which pours out rather than in.

A gentleman who was partial to the early Thompsonian system, with its large doses and crude remedies, said, when his child was sick, he was obliged to call another doctor, as the child's stomach would not hold all the remedies prescribed.

From slight experience, we judge it is difficult to get any but Homeopathic remedies within reach of the stomachs of these little ones. Hence we know how glad mothers are of any remedial means which sick children will enjoy.

Water may be administered in various ways so as to be both pleasant and beneficial, even to these tender lambs. But tact, intelligence and experience must combine to render it a safe remedy. Arbitrary rules can never be a perfect guide for the care of sensitive ones. A wise head and a warm heart should temper the treatment."

TREATMENT OF PLEURISY.—In the early stage, before the fever has fully developed, and while there is a tendency to chill, a vapor bath of twenty-five minutes should be given, followed with a cool sponge bath; repeat once a day during the cool stage. If the vapor is not convenient, a hot sitz and foot bath may be given, the patient being closely enveloped in blankets; add hot water as it can be borne until a free perspiration supervenes, if the person can bear it so long; then sponge as before

directed. If the pain is severe, apply flannels and cloths, four or five double, wrung out of hot water, to the affected part; repeat every five minutes for half an hour, or until the pain subsides: then follow with a cool wet compress covered with a dry cloth; change every two hours, or as often as will be comfortable to the patient. Drink freely of hot water, and if there is a tendency to nausea or vomiting, drink tepid water to produce vomiting. When the fever runs high, a tepid sitz bath should be given for fifteen minutes, or a cool wet sheet pack, for half an hour; afterward sponge off with cool water. Frequently sponge the whole body with cool water, when there is much fever. The cool chest wrapper should be constantly worn and changed every three hours, during the feverish state. The bowels should be moved once or twice a day by copious tepid injections. Drinking hot water will relieve the cough and promote expecto ration.

As the symptoms gradually subside, the treatment should be milder and cooler; if these directions are closely adhered to, the patient will soon recover, and not be afflicted with the effects of the disease and drugs for years afterward.

REGIMEN.

The patient should be kept quiet, and not talk much; none but the attendants should enter the room, which ought to be kept at a regular temperature, and well ventilated. Care should be taken to keep the clothing dry.

The diet should be simple, consisting of rice water, toast water, panada, and gruel, until the patient begins to convalence, then baked apples, baked potatoes, toast, farina, graham or cracked wheat pudding, prunes, figs, etc., may be used, being careful not to over-eat, as there is great danger of producing a relapse, which would be more dangerous than the first attack.—Dr. McCall.

ANSWERS TO CORRESPONDENTS.

BY A. L. WOOD, M. D.

Effects of Tobacco.—"What are the effects of tobacco upon the human system? Does it aid digestion? It is extensively recommended by physicians for promoting digestion, preserving the teeth, etc. Is its use advisable or advantageous in any case? What is the best and easiest method of abandoning its use?"

That tobacco is poison is freely admitted by all medical writers. That nicotine, its essential principle, is one of the most active and deadly poisons known has been proved beyond a doubt, by repeated experiments upon animals, and by its effects upon men when used as a medicine. Dr. Mussey, who made many experiments upon animals, says, "One drop destroyed a halfgrown cat in five minutes. Two drops upon the tongue of a red squirrel destroyed it in one minute. A small puncture made in the tip of the nose with a surgeon's needle, bedewed with the oil of tobacco, caused death in six minutes." The same author observes that, "the tea of twenty or thirty grains of tobacco, introduced into the human body for the purpose of relieving spasms, has been known repeatedly to destroy life."

As regards its effects upon digestion, Dr. Mussey says, "It is a mistake to suppose that amoking aids digestion. If tobacco facilitates digestion, how comes it that, after laying aside the habitual use of it, most individuals experience an increase of appetite and of digestive energy, and an accumulation of flesh?" Says Dr. J. C. Warren, "Tobacco impairs the natural taste and rolish for food, lessens the appetite, and weakens the powers of the stomach." The celebrated Dr. Rush says, "Tobacco, even used in moderation, may cause dyspepsia, headache, tremors, and vertigo."

Dr. Henry Gibbons, editor of The Pacific Medical and Surgical Journal, in concluding a recent essay upon "Tobacco and its Effects," says, "In the foregoing pages we have described the general influence of tobacco on man, showing that it impairs digestion, poisons the blood, depresses the vital powers, causes the limbs to tremble, and weakens and otherwise disorders the heart; that it robs the poor man's family; that it is averse to personal neatness and cleanliness; that it promotes disregard for the rights and comforts of others; that it cherishes indo-

lence of body and mind; that it diminishes the vigor of intellect; that it destroys self-control by establishing the slavery of habit; that it develops the lower and animal nature at the expense of the higher; that it entails physical and moral degeneracy upon the offspring; that it leads into bad associations and bad company, and throws its influence in the scale of evil in all the relations of life."

Dr. Willard Parker, of New York, in a recent letter, says: "That tobacco is a poison is proved beyond a question. It is now many years since my attention was called to the insidious but positively destructive effects of tobacco on the human system. I have seen a great deal of its influence upon those who use it, and work on it, or in it.

Cigar-makers, snuff manufacturers, etc., have come under my care in hospitals and in private practice, and such persons never recover soon, and in a healthy manner, from any case of unjury or fever. They are more apt to die in epidemics, and more prone to apoplexy and paralysis. The same is true, also, of all who chew or smoke much.

This poison enfeebles the mind. The Emperor Napoleon had his attention called to this subject in 1862, by a scientific statistician: It was observed, from 1812 to 1861, that the to-bacco tax averaged twenty-eight millions of francs annually, and there were eight thousand paralytics and insane in the hospitals of France. In 1832 the tobacco revenue had reached one hundred and eighty millions, and in the hospitals were forty-four thousand paralytics, etc. The undoubted inference is that tobacco has a strong influence in producing these classes of nervous diseases.

A commission was then appointed to inquire into the influence of tobacco in the schools and colleges. After a full and careful investigation this commission reported that it had divided the people into two classes—the users and non-users of tobacco, and then proceeded to compare them, physically, intellectually, and morally. The result was that those who do not use tobacco were stronger, better scholars, and had a higher moral record. In consequence of this report, an edict was issued prohibiting the use of tobacco in these national institutions, by

which thirty thousand persons were at once forced to abandon it."

It is almost if not quite as difficult for a confirmed tobacco-user to quit the use of the "weed" as it is for the drunkard to give up his "cups." Tobacco and alcohol make slaves of their devotees, and it requires a strong and determined will to escape from their thraldom. The best way to quit the habit is, after becoming convinced it is injurious and sinful to use it, to stop its use at once an I resolve to "touch not, taste not, handle not" the filthy weed again. If one has not will-power enough, when aided by reason and conscience, to enable him to triumph, then there is little hope for him. There are certain conditions which will make the trial easier, but they are of no avail, except as assistants. Constant employment, physical and mental, is perhaps the most important condition. Stimulants of all kinds should be abjured. The diet should be plain and healthful, out of door exercise should be taken daily, daily bathing practiced, and all the laws of health as closely observed as possible. Water should be the only drink, and this may be taken, in small quantities, as often as there is the slightest thirst or desire for tobacco. Holding water in the mouth will help allay the desire for tobacco for the time being. When recovering from a fit of sickness, or while taking a course of treatment at a Hygienic Institution, are the most favorable times for quitting the habit; or it can then be done much easier, but no one should wait for the one or the other but quit at once.

Over-Development of the Lungs.

"About four years ago I began to cultivate and expand the lungs, by drawing in a full breath, then pounding on my chest, etc. My lungs have grown and expanded until I am "full chested," and have the wind capacity of a pair of organ bellows. Lately, however, if I ride or walk two or three hours, then stop and bend over, I feel a stiffness of the breast-bone, or somewhere in that region. Sometimes it is painful, and after resting a short time, then draw in a long breath, I feel a pang at the lower extremity of the right lung. Am twenty-five years old. What is the cause? Have I overdone the expanding business?"

You have guessed the cause exactly. The lungs are largely made up of minute air-cells, the walls of which are very thin, to allow the air to come in close relations with the blood in the little capillary vessels everywhere encircling them. In a majority of persons, especially those who take but little active exercise, the

cells are in a partially collapsed or contracted state, and are never fully filled with air. This was the condition of your lungs when you commenced "the expanding business." In such cases, expansion and development are necessary and beneficial, but should not be carried to an extreme as in this case. Over-development of any part is injurious, but especially is this true of the lungs. There can be no more air-oells created by any amount of effort, but those which already exist may be brought into full action. When this is done, all special effort at expansion should cease. If continued beyond this point, and the air-cells become unduly stretched, they will become very thin and liable to burst upon great exertion, producing hemorrhage, and also lose their power of contraction, so that the amount of air taken into the lungs at a single inspiration will be diminished, and the chest become rigid and immovable. Great care should be taken not to carry the expansion of the lungs too far. When an increase in the circumference of the chest of three or four inches has been attained by special exercises, the individual should watch himself closely, and cease his efforts as soon as the slightest unpleasant feelings are felt about the chest.

Cleanse and Ventilate your Cellars.-Most cellars, especially at this time of year, contain a large amount of decomposing vegetable matter in the form of decaying fruits and vegetables which give off their foul and poisonous gases during the process of decay. Then again they are usually damp, close, unventilated and unsunned. Air which is kept confined and without the purifying influence of sunlight soon becomes impure and unfit to breathe, and if to this we add the dampness and the constantly-escaping gases of decomposing vegetation, we have the condition of the atmosphere of most cellars. This atmosphere is constantly finding its way into the dwelling above, often causing dangerous fevers and always impairing the health of its occupants.

Swelling under the Eyes.—"What is the cause, and what will be the best remedy for my eyes? They are swellen under the lower eyelids. Sometimes they are not swelled much. Age seventeen. I work part of the day and part of the night, and sleep part day and night."

The cause is probably working at night, and perhaps not enough sleep, in connection with unhealthful habits in other respects. Remody the cause, whatever it may be, and the effect will soon cease. Learn Nature's laws, and obey them.

NOTICES OF NEW PUBLICATIONS.

THE PHYSICAL LIFE OF WOMAN: Advice to the Maiden, Wife, and Mother. By Geo. H. Napheys, A.M., M. D., Member of Philadelphia County Medical Society, etc., etc. Author of Compendium of Modern Therapeutics. Philadelphia: George Maclean. 1869.

This is a book for women. It aims to present whatever of practical importance science has to disclose relating to the physiology of woman, her relations to the other sex, the duties involved in those relations, the peculiar diseases to which she is subject, and the means by which those diseases may be prevented. It is admirably written by one well qualified to speak of such matters. The tone of the book is unexceptional. The samest moral purpose of the author is apparent on every page and gives weight to all his instructions. Hew, perhaps none, have successed so well in presenting these delicate topics explicitly and thoroughly, and at the same time without the slightest offense to purity.

The plan of the work is eminently practical. It is replete with instruction of immediate and vital use to every woman, whether maiden, wife, or mother; and if all would read and ponder well its lessons of wisdom, great would be the benefits resulting to this and succeeding generations.

L'There is a feeling, quite too prevalent we think, which leads many to look with suspicion upon all attempts to popularise the results of scientific research in the department of sexual physiology. No doubt many books of this class have been written which have done far more harm than good. But the fullest admission which the facts in the case call for does not in the least invalidate the general statement, that knowledge in relation to these matters is better than ignorance. "Ignorance," to quote the language of Dr. Napheys, " is no more the mother of purity than she is of religion. The men and women who study and practice medicine are not the worse, but the better, for their knowledge of such matters. So it would be with the community. Had every person a sound understanding of the relations of the sexes, one of the most fertile sources of crime would be removed."

The key.note of the work is struck in the author's opening words: "'Knowledge is force,' saidt he philosopher. The maxim is true; but here is a greater truth: 'Knowledge is safety'-safety amid the physical ills that beset us. Safety amid the moral pitfalls that environ us. It is the revelation of science to woman. It tells her in language which aims at nothing but simplicity, the results which the study of her nature as distinct from that of man has attained. We may call it her physical biography."

And we do not see how any enlightened friend of purity can fall to concur with the author when he says: "It is high time that such a book were written. The most absorbing question of the day is the 'woman question.' The social problems of chiefest interest concern her. And nowhere are those problems more scalously studied than in this new land of ours, which has thrown aside the trammels of tradition, and is training its free muscles with intent to grapple the untried possibilities (of social life. Who may guide us in these experiments! What master, speaking as one having authority, may advise us! There

is such a guide, such a master. The laws of woman's physical life shape her destiny and revoal her future. Within these laws all things are possible, beyond them nothing is of avail. Especially should woman herself understand her own nature. How many women are there with health, becuty, merriment, ay, morality too, all gone, lost for ever, through ignorance of themselves? What spurious delicacy is this which would hide from woman that which beyond all else it behooves her to know? We repudiate it, and in plain but decorous language—truth is always decorous—we propose to divulge those secrets hidden hitherto under the technical jargon of science."

We thank the learned author for these brave and timely words. We commend his book to the thoughtful perusal of every daughter, wife, and mother in the land.

STRUGGLES AND TRIUMPHS; or, Forty Years'
Recollections of P. T. Barnum. Written by Himself.
Hartford: J. B. Burr & Co. 1869.

We have waited for some time to be able to notice this work more at length than can be done in a short paragraph, but our waiting seems to be in vain. The work contains 780 pages, and it is rare that so large a work contains so much that is not only readable, but absolutely fascinating. He knows Mr. Barnum but partially, who knows him only as a showman and proprietor of the American Museum. As a business man he was brilliant, and with few exceptions, wonderfully successful.

We commend the book to the following persons:

- Those who are in any way despondent or downhearted. The lively stories in it will serve to dispel many a gloomy hour, and act as a healthful tonic to the mind.
- To those who have suffered reverses of fortune. Mr. Barnum's experience in this particular is valuable, and will nerve many persons up to fresh encounter, to compel the wheels of fortune to roll forward instead of backward.
- 8. To young men who need spurring on to manly endeavor. Not that we commend all of Mr. Barnum's methods of gaining success, but because they show energy, prudence, foresight, and a determination which are rarely equaled.

We like the idea that people whose lives have been a success should write their own biography; and we have had three notable examples within the last year, Barnum, Gough, and Horace Greeley.

AMERICAN AGRICULTURAL ANNUAL, 1870. A
Farmer's Year Book, exhibiting recent Progress in
Agricultural Theory and Practice, and a Guide to
Present and Future Labors.

American Horticultural Annual, 1870. A Year Book of Horticultural Progress for the Professional and Amateur Gerdener, Fruitgrower, and Florist. Illustrated. New York: Orange, Judd & Co., 245 Broadway.

As usual, this enterprising firm signalize the close of the old year and the opening of the new by issuing these attractive annuals, which, indeed, have grown to be an institution. These volume taken in connection with the predecessors, form a valuable record of the present condition and recent progress of Agriculture and Horticulture.

THE PUBLISHERS' DEPARTMENT.

Contributors to this Number.

MRS. ELIZABETH OAKES SMITH, HENRY WARD BEECHER, MAD. MATILDA H. KRIEGE, J. IVES PEASE, C. B. FROTHINGHAM, REV. CHARLES H. BRIGHAM, PROF. HUKLEY, MRS. R. B. GLEASON, M. D., DR. A. L. WOOD, and THE EDITOR.

Mrs. Susan Everett, M. D., will lecture, during the month of April, in Canandaigua, Geneva, Waterloo, and Seneca Falls, N. Y. Her Postoffice address is Syracuse, N. Y.

Clubs of Twenty-five.—Any person who will send us at one time twenty-five new subscribers to this monthly, shall have them for Twenty-five Dollars. Remember they must be new subscribers, and all be sent at one time.

Caution.—Our friends in writing to us will please be very particular and give Postoffice, County and State with every letter, and not depend on us to remember where they live, though they may have told us a hundred times. Those who think we can turn to our books and find their names and address without trouble, are quite mistaken.

Home Treatment.—Invalids wishing prescriptions for home treatment can have them for Five Dollars. They should send full particulars of their cases. Any person sending five new subscribers to THE HERALD OF HEALTH and Ten Dollars, will, if he does not choose other premiums, be entitled to a prescription for treatment free.

Wanted.—Will our readers please send us brief items of news and experience referring to Health and Physical Culture topics. Make them pointed and practical, and we will publish them for the benefit of others. Do not mix them up with business or personal matters, but on separate sheets of paper and in readiness for the printer.

The Picture of Humboldt.—We are now sending out the picture promised to our single subscribers for 1870, who send directly to the publishers \$2. Lest there be a misunderstanding on the part of some, we state distinctly that those who take THE HERALD at club rates will not be entitled to it. The way to secure the picture is to send your money direct to the publishers.

How to Send Money.—In making remittances for subscriptions, always procure a draft on New York, or a Postaffice Money Order, if possible. Where neither of these can be procured, send the money, but in a Registered letter. The present registration system has been found by the postal authorities to be virtually an absolute protection against losses by mail. All Postmasters are obliged to register whenever requested to do so.

Notice to Our Correspondents.—
The following hints to correspondents should be observed in writing to us:

- 1. ALWAYS attach name, Post Office, County, and State to your letter.
- SEND MONEY by Check on New York, or by Postoffice Money Order. If this is impossible, inclose Bills and register Letter.
- Canada and New York City Subscribers should send 12 cents extra, with which to prepay postage on subscriptions to The Herald of Health.
- REMEMBER, if you are entitled to a Premium, to order it when you send the Club, and inform us how it is to be sent.
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 persons, either invalids or friends of Temperance and
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- Those who want a good Spirometer, Parlor Gymnasium, or Filter for making their water clean, will find the prices in another column.
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- 12. See List of Books elsewhere.

Facts for the Ladies.—I purchased my Wheeler & Wilson machine July 10, 1857, and for the first six years used it constantly from morning until late in the evening on heavy cloth and Marseilles work, and the remainder of the time I have used it for family sewing, without repairs, and the machine is in so good condition, that I would not exchange it for your latest number. It will wear a dosen years more without repairing. I have used one needle nearly three years, and have some of the needles that I received with the machine.

Jersey City. MRS. T. EDMONSON.

Our New Wrapper.—Single subscribers at any postoffice will notice that they receive this number in our new superb Envelope. We have had these made that THE HERALD might be sent flat, and thus reach subscribers in better condition than if folded. The end is ou just enough to allow the Postmaster to see it is printed matter, but not enough to allow of its slipping out. Subscribers who do not receive the monthly regularly will please inform us, and we will send missing numbers. We shall take special pains to mail THE HER-ALD carefully, but can not always guarantee its safe carriage after it is out of our hands. Being a valuable magazine, and so different from most of the monthlies of the country, we know that it is often stolen from the mail by persons who have too little conscience to do right. We hope they will learn enough from it to reform and subscribe.

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THE TWO WIVES.

BY MRS. ELIZABETH OAKES SMITH.

CHAPTER XV.

A CRITICAL YOUNG MAN—THE PROPESSOR NON-PLUSSED.

THE Professor was more annoyed than he was willing to admit by the questions submitted to him by the young student. It would seem that the latter feared to have offended, for he called, asking an interview with the Professor, and Bridget ushered him into the room where the little family sat, with their household avocations about them. He was tall and slender, his golden brown hair carelessly thrown back from his pure white forehead, beneath which were eyes of clear dark blue; the whole air was that of a gentleman, the whole man intellectual and refined.

Edward Olmstead was one of those rare children of genius, sometimes vouchsafed the world to show it what the race might be, when the greed of gold, the lust of power, the bond, the shackle, all aspects of the iron hand should yield to the prince of peace, to the noble freedom which is still in Christ the Lord. He was

thoughtful and brave, because he had nothingto conceal; pure and manly without questioning the power to be otherwise. It was in nospirit of bravado that he had questioned his.
superior in the college, but with an intense desire to learn the highest truth, which the teachings of the school-mem so rarely inculcated.
Sister Electa warmed to the beautiful youth,
whose grave smile revealed even white teeth,
and whose finely modulated voice indicated somuch culture and harmony. Being seated, he
turned to the Professor with a modest dignity
and said,

"I fear, sir, you may have thought me impertinent in proposing the questions I did; but. I did not design to be so."

"It certainly was not in the ordinary routine of instruction," returned Mr. Lyford, "but I accept your apology."

The young man slightly blushed, and rejoined: with an ingenuous smile, "I had hoped you. would be willing to solve some of my doubts, which really exercise my mind greatly, and cause me much perplexity."

"Young man," rejoined the Professor, with a sternness foreign to his usual manner, "your best course while pursuing your studies, is to attend to them exclusively, and leave all subjects disconnected therewith in abeyance till your connection with the college shall terminate."

Edward Olmstead's lip trembled—he bowed respectfully, and was about to retire, when Cora, pitying his embarrassment, and drawn to him by a womanly sympathy, laid her hand upon her husband's arm and asked softly,

"Are you willing that I should tell him what I think?"

The Professor in his turn blushed, but he smiled, for all his better nature came back to him. He turned to the student saying,

"The women are more interested in your questions than I have been, and perhaps will help to solve your perplexities."

Edward bent a penetrating glance upon the speaker, not quite sure but irony lurked beneath the words, but Cora's bright face and the open smile of Sister Electa dispelled his doubts, and he replied,

"I have thought, sir, the intuitions of a woman superior to the logic of a man, when any new truth is presented to the human mind. I think she is meant to be the great and last revelater."

The Professor frowned—he had moved in a routine of ideas, and a round of studies that operated as a barrier to the reception of the new or unacknowledged thought. But there was a something in his mind within and beyond this, which struggled to the surface, and, in spite of the prescription of his office, demanded attention. Seeing with what sweet earnestness "Cora regarded the youth, he was himself more drawn to him, and he replied, blandly,

"I am engaged at present, Mr. Olmstead, but our dear friend Electa (she will be called only Sister Electa), and Mrs. Lyford will be pleased to talk with you."

He could never know how fervently the young man in his heart thanked him for the privilege, for the Professor could not know how the youth longed to escape the clamor and idle, yea, worse than idle companionship of the other students, and hold communion with the pure and beautiful, from whose society the college young men are so debarred. Both of the women were embarrassed, for they felt that he might expect more from their discussion of the subjects than they were able to afford him. But Cora, with the ingenuousness of a child, spoke first.

"I have told Mr. Lyford that we women must vote, for I think I understand that part of your paper better than the other questions."

The young man looked somewhat puzzled to know, it may be, how she had reached this conclusion so much more readily than others, but his admiration of the beautiful speaker seemed to have quite driven other thoughts out of his mind; at length he said,

"It seems to me so evident that woman ought to have all the privileges that are claimed by man, that I wonder the question should admit of a doubt."

"I suppose it is because we have not thought about it, and men have," replied Cora.

The Professor smiled over the book he held in his hand, showing that he listened to the conversation.

"Women have waited till their brothers fully divined their own rights—now it is time for them to assert theirs." This from Electa.

"Does man fully divine his own rights?" asked the student. "It seems to me that in the course of ages he has so yielded one primitive right after another to the exactions claimed by society, that he is now looking helplessly over the vast barricades built up between bim and freedom, powerless to recover that which from the first is inalienably his."

"Will thee name these?" asked Electa, thoughtfully.

"Nearly all our laws are based upon the rights of property, as if man were naturally a thief and a robber."

"He is that—a thief, a robber, a murderer. He delights in war and bloodshed. He has no appetite so strong as the lust of power and the desire of rule," said the Professor, sushing, as it were, into the midst of the subject.

"And yet even Moses addressed his laws to a being in whom the sense of justice existed at least in a rudimentary state; and the Christ, who inculcated the purest and most disinterested beneficence, would not have spoken to beings incapable of understanding them and acting in accordance."

"You talk only abstractions, young man. The history of man is but a history of outrages."

"Most true, but abstract truth is the truth, and the history of man had not been told but for the noble struggles of the few to resist the aggressions of power. Were there no progress toward this inalienable human freedom, the whole race would be sunk into hopeless bondage and irredeemable degradation. A world of

demons, and not a world of hoping, struggling aspiring immortals."

He spoke modestly, but with enthusiasm, his young cheek flushed with the warmth of his thought.

"We have as much freedom under our institutions as the people are capable of appreciating, and all this talk of more is not only absurd but dangerous."

"I can not think the truth dangerous." This was said by Mr. Olmstead, in a low, desponding tone of voice.

"What more would you have?" asked the Professor, coldly.

"I believe in inspiration-in a wider sense than is perhaps generally admitted; therefore, when I read in Moses, and in the Prophets of India, China, and other nations only of prohibitions—the negation only: the do not in all questions, I naturally seek for the affirmative of the question thus given only in its negative sense. From the first it seems to have been 'Thou shalt not,' but in the beautiful teachings of Christ I find this affirmative—this 'do thou'and in his beautiful life and self-negation, his profound faith in man, compassion for his errors, and help for his infirmities—not only the utterance of a God, but a prototype of man." young face was lifted up with a serene, heavenly expression.

The Professor was silent, inly troubled, and Electa said,

"I think I see the remedy thee would apply, but I would have thee explain it in thy own way."

"I would remove the interdict; I would cease the law of prohibition; I would so evolve the pure, the good, the beautiful in the world, that men should embrace them as by a primitive instinct."

"Chimerical! visionary, all!" exclaimed the Professor.

"Oh, dear George, do not say so; let Mr. Olmstead talk! I like to think the world can be made lovely."

"It is for woman to complete the work," and the student bent his pure eyes upon her sweet face as if he saw an angel there. "I would convert the waste places of earth into gardens of Eden; I would leave no sign upon its face of crime and its penalties."

"What would you do with the criminal?" asked the Professor, his fine face marred by the touch of a sneer.

"Till the criminal should cease to be, I would place him in villages, which his toil should build and beautify. His comforts should be proportionate with his endeavors to secure them. I would revive something akin to the City of Refuge appointed by Moses, and thus the mere prison would no more exist."

Cora had leaned upon the arm of the Professor while she listened, and she now exclaimed,

"Oh George! I am sure this is the true remedy for crime. I am sure it is. 'Poor Godforsaken and man-forsaken creature,' I heard Electa the other day call a convict."

"It is all to be done by women," continued the student.

"Why not by both sexes?" asked Electa.

"Ours have so long used the hammer and the tongs, to use a vulgar saying, that we are blinded by the dust of our own flery anvil. In our dull, faithless way we are buried under rocks heaped by our own hands, behind walls which we have constructed and have not the courage to leap over. Christ combined the tenderness of a woman with the courage of a man. Weeping at the grave of his friend, he no less firmly went forward to the furious mob who had come out with arms to seize him, saying, 'I am He whom ye seek,' but over and above all, with a sublime sense of sonship, he said openly, 'I am the Son of God.'" The student was silent, as if all thought concentrated itself in that one claim, and then resumed, "Christ is what all must be. The man should have no more need of courage than the woman. Indeed, as the world now is, she should have the most; she should be the more outspoken, the more resolute of the two, that she may save him and her. The world needs her evangel. It has groaned in agony for the advent of Woman the Redeemer."

"Oh beautiful, Christ-like youth!" exclaimed Sister Electa. "Blessed was the mother that bore thee. You speak the words so long struggling for utterance in my own heart. What shall be the first song of her evangel?"

"She must give new force to that song heard on the Plains of Syria, 'Peace on earth, good will to man.' She must, with all the force of her tongue and life, bid war to cease upon earth. She must train her children to this great gospel of peace. She must sweep from the earth the prison, and above all the gibbet. Thank God, it does not owe its existence to her. She never could have devised the sword, the axe, the burning pyre of the martyr, the tortures of the inquisition, the terrors of the arena, and worse than all the horrors of antiquity, the fearful penalty of the gallows."

"Never, never!" ejaculated the tender Cora,

with tears streaming from her eyes. The student did not seem to listen, for he went on thus,

"She has had no hand in these things, and with a righteous indignation she should arise and hurl them from the land. She should place a cordon of her sex around every woman adjudged to the penalty of laws which she has had no hand in making. She should demand that a woman shall be condemned only by a jury, part, if not all her own sex; she should refuse to be taxed unless represented. She should claim nothing from the standpoint of sex, but all on the ground of a common humanity. The world calls for her action and she must arise to her work."

The cheek of the young man glowed with a beautiful enthusiasm as he uttered this, and rising, he bowed, and was gone.

"O my husband," cried the tender Cora, "how holy, how saintly that young man is! How much nobler we women would be were there more such men!"

"Arhapsodist, a dreamer, a fanatic of the first water," answered the Professor.

"O George, then I wish the world was full of rhapsodists and—and dreamers," she hesitated, and looked full into her husband's face, who turned a little pale.

"You do not like to have me dream, Cora," he replied, softly.

"George, you have never told me your dreams; are they like the waking dreams of Mr. Olmstead?"

"No, Cora, not at all," and he walked the floor in silence.

"Is there evil in thy dreams? My sect believe that the powers of darkness may lead even the saints astray. It may be thee is thus invaded, and it may be that thee is ill." The fine face of Sister Electa glowed with sisterly interest, as she thus propounded to the Professor.

Cora arose and laid her hand upon his arm, and looked in his face inquiringly. Mr. Lyford did not at first observe this pretty womanly movement of hers, but he took her hand at length in his and carried it to his lips.

"No, Sister Electa, there is no evil in my dreams. I have not as yet studied out the phenomenon; but I believe I am growing a better man, with broader thought and nobler instincts through it. It is the narrowness of our experience, the pettiness of our pursuits, and our limited, dry, moral perceptions, that make our lives so poor and ineffective. We judge of each other from so poor a standpoint, that we are

outraged at all independence of mind and action.
I am in perfect health, Sister Electa."

"I am sure thee is; and this young man, this Edward Olmstead, has he not reached a similar conclusion by a different channel ?"

The Professor opened his eyes wide, and a pleasant smile illumed his face, as he said, "That young man has really converted you all into his new ideas; but my dreams deal in eternities, in ages unknown and forgetten. They deal in mysteries of being, incomprehensible to the waking mind, which sees only what is around it. Never, never till now did I realize how fearfully, how wonderfully we are made; never till now did a sentiment universal and tolerant grow upon my mind; never did I so fully comprehend how tenderly our humanity should be cared for and ministered unto; never before rightly interpret that saying, 'Vengeance is mine, and I will repay, saith the Lord.'"

"You talk like Edward Olmstead now, George," said Cora.

"And feeling all this, thee will theorize and not act!" said Electa.

"Yes, yes, I am grooved into my routine, and to leave it would but destroy one positive field of usefulness, without affording me another of like importance. I am a plain student, Sister Electa, not an enthusiast; not inspired, not prophetic, not gifted beyond my fellows. I am content to experience unwonted phenomena, and leave to others their solution. As they have come unbidden, I have an indistinct faith that the same power which has afforded them will also apply them to their needful use." He turned smilingly to Cora and said, kissing her hand, "I am content to love and be loved by my sweet wife."

"She is not always sweet, George. She is an unreasonable, silly little vixen; but she is growing better every day."

CHAPTER XVI.

Paul Stearns—Young Lovers—A Farewell Letter—A Widow's Grief.

A T the time of our story, Paul Stearns was one of the brightest and handsomest lads of the village, and as the Professor had some times afforded him books for reading and study, he was not unknown to the family, but he was better known in his own grade of life, and most admiringly known to Patience, the small-girl-of-all-work to Mrs. Descon Grant.

Where father and mother are not in perfect harmony, it is not to be supposed that their children are profoundly sympathetic with both, perhaps not with either, and this constitutes one of the evils of ill-assorted marriages. Paul being naturally of a gay, buoyant temperament, would always contrive by some method or other to extract honey from the bitter herbs of every day life, and he never failed in his off-hand way to put in a word, so bright and unexpected, when the domestic hearth most lowered, that even Janet forgot her wrath, and exclaimed,

"Where that boy got his natur' is more 'n I can guess. He never got it from John Stearns, nor his mother, Janet. A angel must 'ave spoke."

Paul was sorely tried by the long prayers and exhortations of his father, and many and often times has been known to slip out of the open door while he wrestled thus, and gossip with some young crony, and slip in again just in time for the "amen," nor did Janet feel called upon to interfere in the movement because of any religious scruples.

Paul certainly regarded his father with profound respect, while he yielded his mother a sort of bantering, good-natured disobedience. He worked in and about the mill with his father, and was a daily witness of his austere integrity, and intelligence beyond his associates. Paul was accustomed to the sports of the lads upon the river, and was one of the best boatmen and skaters in the neighborhood; indeed, he, like all Yankee boys, could turn his lithe limbs and active mind to any thing, the only drawback being that among so many capabilities he might never be able to apply himself sedulously enough to any single one to insure success.

John Stearns had now frequent returns of what the people called fits, and it began to be considered dangerous for him to work in the mill, even the light-hearted Paul urging his discontinuance, saying:

"I am growing and strong now, Father, and will do for you."

"I know, Paul, that you are wanting to follow the sea. Wait awhile, lad. This can't last long with me. Wait awhile; I would not have your mother left alone." The cold sweat stood in beads upon his brow, and the strong frame shook violently. At length he resumed,

"Wait awhile, lad, this can not last." Glancing about the room to be quite sure that Janet was not present, he took a scrap of sealed paper from his bosom, saying, "Some time to-day put this into the hands of some one at Professor Lyford's."

The youth was not unwilling to have an idle

day granted him, and was soon on his route, accoutered in his best suit, the leather strings of his well-greased shoes strongly tied, and his blue stockings, showing a shapely ankle below his trowsers, growing a little short for the wearer. Paul either did not know this, or did not care, for he went on with a quick step, determining at all events to go up the hill and round by Deacon Grant's. Nearing the premises, he heard the clear voice of a young girl singing in a low recitative the words of an old ballad:

"Up then spoke the master cook,
A tear in either eye,
If you would see your daughter dear,
Pray, sir, cut up that pie."

Paul did not scruple to peep through the boards of a high fence and look admiringly at the singer, who sauntered leisurely toward the well, a large slice of brown bread and butter in one hand, which she ate with an appetite, and which rather impeded the delicacies of song. She wore a short blue petticoat, and a loose, striped blue and white sack. Her hair, untouched by morning comb might have been tidier, but could hardly be made more picturesque, as it clustered in sunny curls about her head, having been at some time cut short in hope to tame its luxuriance.

Paul gave a low whistle, at which she started and threw her bread and butter off into the grass, while the quick flush betrayed her delight. In a moment Paul had leaped the fence and stood beside her.

"Don't waste your bread and butter, Patience," he said, with a boyish laugh.

"La, you! how you frightened me, Paul."

"I was coming this way, and thought I'd tell you I mean to go away before long. I'm going to sea the first chance I get."

"O Paul, I wouldn't go, if I was you," and she ground the toe of her heavy shoe into the soil, as if determined to dig a well there.

"Patience, don't you say you wouldn't go; for you would, if you was a grown boy like me. It's a shame to me, it is, to know so little, and do so little at my age."

In spite of her efforts to conceal them, the tears came to the eyes of Patience, which she laughingly tried to cover up by exclaiming.

"There never was such a cold as I've got; I believe it will be the death of me."

"Never you mind that, Patience; I more think you'll be well of your cold, and forget me quick enough, when I'm out of sight, and glad enough to be sweet on Seth Wyman." "I suppose so," she answered, with a toss of her head, and cured of her cold instantly.

"Well, then, I needn't have taken the bother to come and see you, that's all. Good bye, Patience."

He turned to go, but Patience called out, "Don't be a fool, Paul," and he returned, to see the smile dimpling her pretty face, and her foot making a new well in the ground, but at this very moment a shrill voice cried from the house,

"Patience, where on earth are you? Not one drop of water in the house, and the tea-kettle jist as dry as a bone."

There was a low shed for poultry between the house and the spot occupied by the young lovers, and Patience at once threw her apron over her arm, and popped round the corner, answering.

"Here I be, ma'm, hunting for hea's eggs," and in a moment she was back at the side of Paul.

"Don't lie, Patience; I don't like it."

"I suppose not; good bye, Paul;" she pouted, and was in her turn going, when Paul seized her by the wrist.

"Aren't you glad I am going, Patience; I always quarrel with you."

"That you do, Paul. You're jist the worst tempered fellow in the place; but for all that, I'd rather have you fight me, than Seth Wyman to be sweet on me."

"But, Patience, you must not spooney Seth; he's a coot of a lad, and thinks you mean it."

Patience giggled coquettishly, and muttered, "I guess I shan't do him any hurt."

"And you must not lie, Patience."

"La, Paul! 'twas jist to keep that old critter," giving a backward toss of her head at the house, "from coming out. But look here, Paul," and she said this with grave earnestness, "do you think I'd lie to any body that loved and trusted me? No, sir; that I would not do," and she gave a great dig into the well. Here she gave a quick start through the shed door and emerged with a lap full of eggs, for a shrill voice screamed again,

"Patience, if you don't bring in that pail of water, I'll skin you alive!"

"Good bye, Paul; I'm done fibbing, depend upon that. I'll speak the truth if she breaks my head, and you my heart."

She was going to dart round the corner when she ran directly into the jaws of the lion, in the shape of the energetic Deaconess, who seized her by her thick curls with such force that she nearly lifted her from the ground, at the same time that she so displaced the short petticoat by twisting her and shaking her, that she displayed a much larger portion of Patience's round legs than was at all agreeable to the owner, who flushed doubly with pain and offended modesty.

Seeing Paul at that unexpected hour, the amiable Mrs. Grant dropped her hold of Patience and eyed him with a vinegar aspect, but Paul was before her,

"You'd better look to yourself, ma'am, ifyou're going to treat a grown girl after that fashion. You're mighty ready with them two hands of yours."

"Hoity, toity! my lad. You crow in pin feathers! I wonder what you'll be when your spurs grow? But mind you, keep off my ground, if you know when you're well off."

Patience having adjusted her petticoats, darted glances of angry scorn at the barricade of her mistress's back, changed to undisguised admiration for her intrepid defender, who grew at once in her eyes to a hero above Turk or Saracen, letting alone Crusader, all of whose exploits she had studied in familiar romance and ballad. Encouraged by her smiles, Paul ventured upon another shot before he took his leave.

"I tell you what, ma'am, I'll complain of you to the Selectmen, and have her papers cancelled."

"Tell 'em you are sweet on the girl, and they'll believe you," she cried, and turning sharply she gave Patience a slap in the face, which greatly accelerated the movements of that young lady.

Paul went on his way light of heart, for the few words of Patience, half love and half pique, such as any girl, whether a rustic, like our Patience, or nobly born, like Juliet, hardly emancipated from caressing her doll, is sure to repeat to her young lover. He felt their purport was love, and he built his airy castle for the future, muttering to himself,

"I must bestir myself. These girls get ahead so fast! I must get off to sea and earn money, and then release Patience from these hardfisted curmudgeons. To see her grip that pretty head of her's made my very blood run cold."

Paul soon delivered his errand at the Professor's, and felt himself more than rewarded by a sight of the beautiful face of Cora, whose unapproachable loveliness and finish of manner, realized to his fancy all that he had ever read about queens and fairies, and the ladies of song and ballad.

"So soft, so nice, so sweet-spoken! She ought to be stood like an image on a mantle-

piece, just to be looked at," he mused to himself, overcome by the sense of beauty.

Returning home, one of the workmen gave him a billet from his father. It read in this wise:

"Mr Son—Perhaps what I am going to say better be left unsaid, but I am a plain man and must speak out. You will not see me again. I leave all in the house to you and your mother. The house is paid for, such as it is, and I have no debts. Your mother was brought up to work, and with a roof over her head will not find it hard to support herself. I inclose fifty dollars for a start in any thing she may choose to do. I leave her my good will.

"Paul, I bear no hardness to your mother; she has acted up to her nature, but we were not adapted to each other, and perhaps the fault was as much mine as hers. 1 feel that I could not have her look upon me when I'm dying; I could not die in peace. Do not worry about me, Paul; I go where I shall be cared for to the last.

"I charge you to be good to your mother. Treat her with patient kindness as I have tried to do. For yourself, do not drink and do not swear, and you will come out about right. I think you and your mother will be happier without me, and so I wait God's time, praying for you to the last.

"Your Father,
"JOHN STEARNS."

To say that Paul, with all his light-heartedness, did not appreciate the depth of feeling underlying the cold expression of the letter, would be doing him injustice. His blood rushed so violently to his head that it spirted from his nose, and he staggered to the house nearly choking with emotion. A thousand remorseful feelings gathered in his heart, and not the least was a wrathful one to his mother. Throwing himself into a chair, he cast the letter upon the table without a word; Janet took it up and began to read aloud, but before she had proceeded far she broke out into shrieks and lamentations:

"To leave me a lone widder; worse, a widder bewitched; never to know whether I'm a widder or not. Oh, dear, dear, dear! I shall choke; I shall choke!" Springing from her chair, she gave way to a disagreeable laugh, exclaiming,

"Catch John Stearns to do that! you couldn't drive him away. He'll be back again—he'll be back. He needn't try to pull wool over my eyes; I'm too sharp for him there," and she began to dig into the cellar with the broom, sniffing and muttering.

"Mother," said Paul, "Father will never come back again. He is not the man to say one thing and mean another."

"You don't know him so well as I do. He'll be back. I've been used to work! have I? We'll see, we'll see," and with these mysterious words she went on with her broom.

But the sun went down and he did not come. The night darkened; the stars came out, and the young moon was lost in her bed of sapphire and purple, and yet he did not come. Janet sat upon the door-sill and waited and watched, till the gray of the morning came, and then she arose in a mood of unwonted softness and went to her bed. Hearing her sob and cry, Paul approached her.

- "Can I do any thing for you, Mother?" he asked.
- "Oh, Paul! bring him back; bring him back!"
- "I know not where to go, Mother. He took the boat and went down the river."
- "Oh Paul, Paul! he was a good creatur', a good creatur'! What shall I do! what shall I do! Look here, Paul, he has left me his watch and his silver shirt buttons, and gone away for good."

COMPLICATED TOGGERY.—The complicated toggery worn by the old nobility would be too inconvenient for merchants, manufacturers, mechanics, and others who have work to do in the world. Men now pride themselves upon spending their wealth on colleges, railroads, steamers, and other public improvements, rather than upon personal decorations. Finery is considered decidedly unmanly.

And, as women become invested with larger responsibilities, and became conscious of living for more extensive usefulness, will they not shake off the tyranny of fashion and learn to combine gracefulness with simplicity and convenience in their costume? I believe so; for there is the same human nature in men and women, and similar influences will produce similar results in both.—L. Maria Child.

BE BRIEF.—The ancients could express: a thought so perfectly in a few words or sentences, that they did not need to add more: the moderns, because they can not bring it out clearly and completely at once, heap sentence upon sentence, in hopes that, though no single-sentence expresses the full meaning, the whole-together may give a sufficient notion of the thought.

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A Pure Mouth.

BY REV. CHABLES H. BRIGHAM.

E that keepeth his mouth keepeth his L life," says the Hebrew proverb. The proverb is verified by all human experience. The mouth, of all the organs, is the most necessary to life, and has the largest office in human action and human expression. Life enters in at the mouth, and life comes out at the mouth. The body is fed, and the soul finds utterance through the mouth. The rudest work of the man, and the most perfect work of the man, are done with this organ. He has it in common with the lowest form of animal life, and he has it in common with the angels, with the absorbing polypus, and with the beings who continually sing God's praises. The mouth is the first organ through which the soul becomes manifest, in the cry of the new-born infant; and on the lips the soul lingers when the chest heaves no longer, and the eyes are closed. It is the indispensable organ. The feet may be palsied, the hands cut off, the ears stopped, the eyes blinded, and yet life may continue; but when the mouth is finally closed the man is dead. Locked jaws forbid all hope, and all the rest of the organs by their united strength can not rescue the victim.

What variety of function belonge to this organ! It eats, it drinks, it laughs, it smiles, it talks, it sings, it shouts, it blows, it yawns, and it kisses; these in its natural use. Then it may be turned to other uses. A dog carries in his mouth his master's basket, and a fashionable woman at her toilet, and a seamstress in her work, plant pins in this convenient aperture, like a row of palisades. Half of the men in the world make of the mouth a chimney, sending out swift puffs or lazy currents, and others turn it into a storehouse or distillery of nauseous weeds. With not a few, the chief use of the mouth is in discharging saliva, shooting or spouting secretions, in showers more or less copious, as the Dragon of the Apocalypse, who casts floods out of his mouth. Others make of it the conduit and the catapult of fierce and explosive oaths, and come to find swearing with the mouth almost as natural as the barking of a dog. The mouth is the Proteus of the face and the body, and has the power of double function, may appear simultaneously in two or three characters. Its smiles may bely its words, even when these are uttered. It may eat and talk together. It may hold an aching tooth while it sings a joyous note. It may roll tobacco as a sweet morsel under the tongue while it is preaching purity and salvation.

And no organ so much as this ministers pleasure and pain. Through the mouth comes in the larger part of all sensual delight, not the gross only, but the refined as well. The bouquet of wine as well as the flavor of beef and mutton, the bitter of herbs as well as the sweet of juices, the reviving aroma of steaming teapot not less than the stimulating chill of ices, all appeal to the senses through the mouth. The mouth not only conveys food and drink to the craving internal organ, but arrests on the way the delight of food and drink, and turns the appetite into joy. And it disciplines the body, too, into endurance and self-denials. The sharpest of all pains, most vexatious, most trying to bear, one might almost say, most frequent of all pains, comes in the mouth. Medicines leave their sting and dentists do their most tormenting mischief in the hall of the house. The troubles of the mouth bring constant dread and foreboding. The misery of the drawn tooth is not all in the short operation, but in the long weeks of agony borne, and fear of greater agony. And as a speaking or singing organ, no other gives so much joy or praise as the mouth. What sport to the speakers and what sorrow to the hearers in the fluent discourse of a member of Congress, or the pious drawlings of some weak brother or sister, who utter the voice of the spirit in the assemblies of the righteous.

And as the sign of character the mouth is not the least important of the features. It expresses soul by its form and habit, not less than by its uttered word. It modifies the expression of the other features, and often wholly changes them. How many faces there are which have a wholly different expression when the mouth is covered from sight! It is a disadvantage of a heavy beard, that it hides what the mouth has to show, while it smothers what the mouth has to tell. Certain styles of mouth are as unfailing in their demonstrations of soul as the barometer in showing atmospheric weight, or the thermometer in showing atmospheric heat. We know what to expect from a man whose mouth is always open, as well as from one whose mouth is always shut. The twisted mouth suggests a

kink in the mind, the pouting mouth a surly or sullen heart. A large mouth indicates a love of good cheer, with a free and jovial spirit, a small mouth hints of a large self-esteem, with perhaps a suspicious soul behind it. It is not safe, however, to judge of character wholly or mainly through the shape of the mouth. There are men who show as bright a row of white teeth when they talk as Carker, Junior, who are yet not demons; there are men who have as bland a smile as Pecksniff, who are yet not hypocrites. The "all-speaking, omni-mouthed, all-eating Dunbar," celebrated in a Harvard poem of eighty years ago, was not an over-bearing or a sensual man, but a mild and excellent minister, who died in the fame of sanctity. Eli in the temple could tell what the excellent Hanuah meant, as she was praying, by watching the movements of her mouth; it would not be so easy to interpret the sentiment of worshippers in Christian temples, as they perform their prayers in silence, and move their lips mechanically. Prayer has its formal and fashionable expression.

There are three factors in the work and influence of the mouth, the lips, the teeth, and the tangue. The inner palate helps also in the joys or pains which come through the organ; and the throat and larynx beyond are also essential to the work of the mouth, as the trunk to the leaves and branches of a tree. But all of the mouth that a stranger sees or wants to see, is in these three factors, or four, if we would separate the lips, as the fashion now is to separate husband and wife, and give them a double interest and a diverse office. No one wishes to see much of the inside of his friend's mouth, or to look far into the channel beyond, unless he is a medical man, in search of some lesion or some malady. The sweetest singer becomes hideous when her mouth is distended and shows as an "open sepulchre." One is not to be blamed for yawning on occasions when the speeches are tiresome, and the air is poisoned by an over-dose of carbon; yet a college president loses dignity in exhibiting the cavity of his spacious mouth too often and too broadly before an audience on Commencement day. The eye of an observer ought not to get far beyond the outer court of the mouth, where it communicates with the world, and not to pry into its secrets, whether the palate be of blushing flesh or of brown gum, and whether the tonsils be smooth or bulbous. The lips, the teeth, and the tongue are the media of communication of the mouth with the outer world.

The lips are always in sight (when not cov-

ered up by hair), and claim our first attention. We shall not discuss the question What is the handsomest style of lip, or what is the normal lip for the healthy man. There is no rule of health and no rule of beauty in this matter. A short upper lip is thought in some quarters to be "aristocratic;" but this is a democratic land, and men are not to be valued by the scornful curl of this upper lid of the mouth. A thin lip seems to show delicate blood; yet the Cleopatra of story is not less royal, that she is moulded with the thick lips of the Negro race. The heavy and pendant lip of the most famous of American female orators does not prevent the fire in her eyes or the ring of her strong voice. Some praise lips of high color, and would have them "like a thread of scarlet," as they were in the love song of the Canticles; would paint them like the lips of the favorites of Eastern harems, and keep in them a rosy blush, even when they are thin and wrinkled. Others prefer the pale lips which tell of the lily, and prophesy of a spiritual and saintly soul, living in holier air than earthly air. To some the lips are most graceful when they fit sharply together, edge to edge; while to others they are most shapely when the upper closes on the lower, as the cover upon a casket, hiding its rim. Not many favor the shape of the under lip sliding above the upper, as the acorn is held into its cup.

But tastes vary in lips, as in other features, and inexorable Nature will not change her decision to suit any taste. A thick lip can not be sliced or pressed or drained into grace, and a thin lip becomes full only when disease distorts it, or cold or wounds swell out its tissues. There is no practical aid to Nature in the adjustment or ornament of lips, whether by compression or cosmetic. There are African tribes in which the lips are bored and hung with rings and pendants. This custom has not yet been borrowed by civilized nations, even by those who mutilate the frame, and wear rings in the ears and mail upon the chest. Possibly this African fashion may yet become Some royal virgin may be born Christian. with a deformed lip, and to hide it may suspend a row of diamonds along the front of her mouth. Straightway the decree will go out, and precious stones will make pendant moustaches for the blushing fair. Until that time a clean lip will be the best style for the sex which have no hirsute covering for shade and protection, and that will be gained by clean water rather than by dangerous dyes and depilatories.

There are risks and disorders to which the

lips are exposed, and some of the most painful annoyances come in this part of the body. Carbuncle chooses this tender place for its Cold swells the lips into poisonous attack. sores, and the ringworm draws its hateful circle on this sensitive surface. Without profane and vain babbling, such as Paul rebukes in his pastoral letters, canker will eat into unwilling lips, and their covering will dry and crack. But care may save one from many of these troubles. Some kinds of food are poisonous to the lips; one man always pays for his enjoyment of the pineapple, whether in the crude fruit or the disguised essence, in swollen and sore lips; it is for him to eschew that joy in any and every form. For unother, acids spoil the lips of their soundness and color; and they should accordingly be shunned. Some due attention will show to every one what are annoying and what are injurious appliances for these doors of the house he lives in, and teach him what to avoid. Swollen lips are not only uncomfortable to the sufferer, but they add to his pain the mortification of knowing that he is a disagreeable object to those around him. A small swelling here may deform the whole face of the man. And black patches of plaster only vary the painful ugliness. A swollen lip seems to bring one into the category of ruffians, who wear this badge of their unlawful calling.

The lips protect the teeth, hide their defect, and shield them from injury. In these last years the teeth have risen into commanding notice, and have become surgically, commercially, in sisthetics and in hygiene, of the very first importance. Dentistry is by eminence an American art, and its professors rank with men of science and men of letters, and are privileged to hold the jaws of kings and princes, of popes and cardinals. We have special schools of dentistry, which give degrees; local and national societies, which hold imposing conference and pass strong resolutions. Teeth are made singly and in blocks, handsomer than Nature, and are an article of merchandise as precious and as ready to hand as ivory or porcelain. The skill of the moulder and the craft of the baker are used in this industry. The dentist, like the lawyer, has made himself indispensable, and almost gets a retaining fee from his clients. There are those who have their teeth examined every quarter or every month as regularly as a Catholic goes to confession. Not a few who are slow of speech and harsh of voice, have as just a claim to the name of "Chrysostom" as the eloquent John of Byzantium, and others carry more gold in their mouths than they can keep

in their pockets. Indeed, the opening of many a virgin's lips discloses metallic wealth which might encourage an experienced miner, or hint of an ample dowry. The Syrian damsels carry their gold in their braided hair, but the damsels of the West hide it in the seams and crovices of their mouths, and are betrayed by their smiles and their speech. The "auri sacra fames" is not likely to go with many ungratified, for want of gold in the mouth to appease the hunger.

It is quite right that the dentists should magnify their office, when so large a part of human happiness or misery depends upon the condition of the teeth, in old age as in youth, in life at home as in life abroad. A handsome set of teeth is certainly beyond price, and worth more than its weight in gold. No face with this ornament can be altogether ghastly, even in the ravage of disease, or worn by much pious and penitential musing. No face which exposes broken ranges of teeth, isolated tusks, with chasms between them or blackened stumps, can seem beautiful more than a newly cleared lot in the Western forest, or than the forlorn crags of a Jersey beach. The singer of the Canticles compares the teeth of his beloved to a flock of shorn sheep; but the flock is a full Syrian flock, where all move in close ranks and obedient to the shepherd's word, and is not a few stragglers, browsing each on its own account. An old man who has kept his teeth sound, has laid up better treasure for his days of decay than any money in the strong box or any certificate of stock. He saves his voice, his digestion, and his youth by that fortunate investment. Eating does not become pain and weariness, nor the "grinders cease to work" because they are so few. He can still sing the praises of the Lord in a tone which shall harmonize with the musical chord, and shall not drop to a feeble and piping crack. He can keep vowels and consonants in their place, and even, if he will study with hope of success some foreign tongue like Welsh or Russian, as the great Goethe in the years of his decline. A lawyer with good teeth has great advantage before a jury; a preacher with good teeth can do more before a congregation to convert souls than a preacher with bad teeth, even if he speak as with an angel's tongue. St. Paul had weak eyes, or was near-sighted, but we may be quite sure that the Apostle to the Gentiles had a good set of teeth, else he never would have gathered so many churches.

Good teeth are in some sense hereditary, and belong to some races more than others. The

"proud Caucasian" may envy the Negro his rows of ivory, so white and so symmetric, which make him a light in the darkness. Often in aristocratic houses the teeth begin to crumble before the period of childhood has passed, like the walls of Chicago houses before the roof upon them is complete. That ancient proverb of the children's teeth on edge, because the fathers have eaten sour grapes, is realized in other ways. The excesses of fathers entail this loss and disgrace upon their children. The debauchery of one generation makes work for the dentist in the generations which follow. No amount of care and caution can save the premature loss of teeth when the seeds of early decay have been sown in the constitution and in the currents of the blood. All external dangers together are of less moment than this constitutional tendency. Teeth may be knocked out by railway accidents, or by falls on the ice, and the aggregate of losses from such causes is something frightful. Teeth may be loosened and destroyed by overwork, as by the gumchewers in the schools, and the tobacco-chewers everywhere. Teeth may be rotted by eating too much sweet or corroded by too much acid, or broken by cracking nuts. But all these causes of injury together do not account for the bad teeth that are a fatal legacy of the Saxon and Latin races. Wine and luxury, and late hours and nervous excitement, have a much larger share in this work of destruction. are not to expect good teeth, regular, or sound, or beautiful, where scrofuls lurks in the system, or where the bones of the limbs are as reeds. The age of a horse is discovered by his teeth, and the soundness of the human frame can be detected with even more certainty by the same decisive sign.

The third member of the triad of factors in the mouth is the tongue, a little member of the body, but one which does a large work and makes a great noise in the world. The tongue is before all else the talking member, but it has other important service. It tells by its color and coating the state of other organs more deeply hidden, and shows what disease may be lurking in the system. It is an organ which ought to be modest, and not court close attention—ought to reverse that proverb about little children, and be heard rather than be seen. A tired and panting dog may be allowed to carry a lolling tongue, but this is not in its right place, as it hangs beyond and over the lips of man or woman. In such a position it indicates a lazy will. The tongue that shoots out through the lips, too, seems to throw venom,

or to "speak deceit," as Jeremy phrases it. Indeed, that small, fleshy, flexible organ has no end of metaphor to describe its function. It is a sword, a razor, and a pen; a bow, an arrow, and a dart; a tree of life, a consuming fire, and how many more things! It gets credit and it gets discredit in proverbial speech. There is an old French maxim that "a woman's tongue is her sword, and she does not let it rust;" and Juvenal tells how "the tongue is the worst part of a bad servant." On the good or bad condition of the tongue depends a great deal of human comfort and efficiency, whether the utterance shall be thick or thin, distinct or stammer-It is in good condition when all its muscles can play freely, when it can move unimpeded in all directions, when it can search the teeth, can cleave to the roof of the mouth, can regulate the flow of air, can make itself a cup; when its sense of taste is keen, and it can defend the system against unwholesome viands or draughts; when, like the friends in Virgil's pastoral, it is alike ready to "sing and to answer." A tongue in good condition has no bound to its ministry of good, but a man with an ill tongue is always, as the wise son of Sirach describes, this a nuisance and a danger in the city.

But we tread on hazardous ground in these speculations about the tongue, that dear instrument of gossip, and slander, and back-biting, of scolding and complaints, of cry and harangue, which may preach or blaspheme, may be tongue of nighthawk or nightingale. All these fancies make preface for a few practical suggestions and advices. How shall we have a healthy, or to use the old English epithet, a "righteous" mouth? There are several good rules to remember:

1. Keep the teeth clean. Not an original suggestion, but one which loses nothing of its value by much repetition. Use the brush once, twice, or thrice each day. Remove all food from the teeth when meals are done. Vegetable mould and animal decomposition may enrich the soil, but do not sweeten the mouth. Ordinarily a brush with water is enough in this use, and sand and alkalis may be omitted. Charcoal and sand are worse than penance in the mouth, and may bring a renewal of the Hebrew lament, "Jehovah hath broken my teeth with gravel stones." And in general, the first rule for a sweet and wholesome month is to have the teeth sound, their cavities filled, their surface pure from stain, and a free passage between and around them. No amount of aromatic essence, roots or lozenges, can purify a mouth which is

full of decaying bone, or sweeten the air that comes from such a charnel house. From such a mouth even the whispers of love are as deadly breath. Clean teeth are closer to the soul even than clean hands, which go with the pure heart.

- 2. Avoid from the mouth all irritating, acid, and corroding substances, rough metals, iron and copper and brass, any thing that may lacerate or ulcerate the mouth. It can not be too strongly urged that a knife of any kind, large or small, has no business in the mouth; the Arkansas blade is a "toothpick" only in metaphor. The mouth is not a fit reservoir for buttons or pins, or money. Many of the mineral remedies, once so much in favor, did harm enough in the mouth to neutralize all their good in the blood. Metal and mineral should be "exhibited, in the mouth in invisible Homosopathic qualities, if allowed to go there at all.
- 3. Refuse food which is nauseous in its odor, or leaves a strong and unpleasant flavor in the mouth. Only a depraved social state will bear a constant dispensation of garlic and onions, however good these may be in digestion. All the prayers of the Spanish churches will not purify the mouths of the people, so long as they feed on these pungent herbs. There ought to be many spinsters in the town which makes its boast of its "geese, girls, and onions," and grass

ought to grow in its streets by way of an antidote.

- 4. Do not eat opium or chew tobacco. In spite of the arguments of Dr. Hammond and Mr. John Fiske, it will be impossible to make any unprejudiced person look for a clean mouth where the quid is rolled as a sweet morsel. No tattooing of savage is more frightful to look upon than the flowing rivulets of yellow juice from the corners of the mouth. One who will smoke his pipe, too, should keep back from the conjugal or parental kiss, and reconcile himself to a celibate life.
- 5. And finally the mouth should be often ventilated and cleunsed, by breathing fresh air and washing with pure water. Always in the morning; a bath for the inside of the mouth is as necessary as for the outside. Always after a meal; to clean the mouth is as fit as to clean the table. Laughter is as good for the mouth as for the chest and diaphragm, and a reasonable fluency of speech, tco, saves the mouth from corruption.

More might be added, but whose will keep these counsels will not need any more. We may believe that a man is defiled by what comes out of his mouth rather than by what goes in; yet, after all, one is safer whose mouth is wholly clean.

Making Haste to be Rich.

BY REV. GEORGE H. HEPWORTH.

If called upon to designate the happiest man in the community, I would look for him not in the ranks of the wealthy, nor in those of poverty, but in that middle class, that laboring class, which is neither rich nor poor—a man who has no better hope than constant labor from youth to age; and yet who, in constant labor, will find health and happiness.

The rich man has aches and pains, care and anxiety; while the poor man has ease of body, and an abundance of vitality, for the loss of which there could be no earthly compensation.

Many a merchant down town would give three-quarters of his millions, if he could possess the health of the porter in his store; and he would give the other quarter if he could commence life again, and live it on higher and better principles.

The great error of many is, that they spend their time in making money, without exercising any care with regard to their physical condition. In their eager quest for wealth, to gain the shelter of a four-story brown-stone front they sacrifice that which is worth more than gold—bodily health, peace of mind, and length of days.

In England, so careful is the mother of her boy, so regardful of his health, that he learns to take a pride in his body—is grandly proud of his physical prowess. He boasts of the weight he can lift, of the miles he can row or run, and of the labors he will achieve when he shall have grown to be a man. When he arrives at eighty

years of age he will still be tough and fibrous, and capacitated for a great deal of enjoyment.

In England the boys go on to the green sward, and engage in cricket and other sports that tend to the development of the muscles; and thus they gain strength to meet the battle of mortal life, and are better able to engage in the commercial activities that await them. There the teacher cares no more for the mastery by the pupil of a b c, than for his erectness, his muscular development, the way in which he stands or walks or runs.

Here we have no gala days, no breathing times in all the weary round of the year. We only stare with wonder when we see the athletic performer's glorious deeds.

The commercial integrity of men depends more upon their bodily constitution than is generally supposed. The first condition of commercial honesty is a good, hearty, wholesome body. He who has it not is in dauger.

The religion which goes with dyspepsia is not worth having. A man whose body is all out of joint, neither knows nor dreams of the beauty of that victory to him who wrestles and wins.

The reason why men generally care so little for their bodies is, that they are in a frightful hurry all the while. It is business that first looks them in the face in the morning, enslaves them during the day, and when night comes they retire, weary and worn, to imperfect rest. They expend all too soon the vital energy which should be husbanded, and grow old at fifty, gray headed at fifty-five, dead at sixty, and in two months are forgotten.

The old motto, "Slow and sure," is the one to be adopted, and not "Hurry up and run the risk." Make your money honestly, make it dollar by dollar, and then you will know how much it is worth.

When looking out and seeing how busy men are, the story comes to mind of the traveler, who, in the street of an Eastern city, surrounded by beggars, threw at them some small coins of the country. They jostled each other, grew angry, tore each other's garments, and in the eager excitement, wronged each man his neighbor.

God does not tell a man not to go into business. It is the duty of every man to work at some thing; but his labor should be done in a manly way. If life is like a game of chess, and business demands that each man shall play his pieces with care, when victory crowns his efforts God will smile upon his success. If life is a grab game, self-consciousness the only motive, and success to be achieved by only those with

the longest arms and firmest clutch, then business has become demoralized.

Girls are no longer girls in this country. At an early age they are thinking of "conquests" and polite phrases, instead of trying to become useful in the world. They think but little of any accomplishment which has not for its aim a "settlement" and a contract, leaving out of the question a consideration of all the finer feelings. There is too little that is solid, too little that is worth the having, too little that accords with the Christian religion.

The dream of the American is to be rich in twenty minutes. Slow toil and slow progress do not suit his ambition. If not speedily successful in his eager grasping after wealth, he will grumble over his bad fortune, and take no pleasure of his life.

The business of this city is top-heavy. That is why it is killing men. There must be brownstone fronts, carriages and servants, splendid apparel, dinner parties, and many other expenses. Humility is not one of the virtues of this metropolis. The man who lives on a small salary has the pith and vim in him of which martyrs are made. As men live there are a thousand channels of expenditure, and to meet the demand business is increased beyond its legitimate circumference-so spread out, in fact, that sooner or later there must come a crisis. There are many men in New York who do a dozen times too much business for their capital. They are devoted to their families but they make great risks in business. If good luck comes, all right; if not, then worry, and being worn out.

What is needed is calmness. He who frets and worries may sacrifice his honor, when, if he were calm, he would hold his honor nearer to his heart. Men should infuse into their lives that moral ambition which would compel them to keep rich; to take a holiday and go into the country—to play with their children two hours every day. He who keeps on the bend all the time must break. He who rests occasionally may work with a flerce ambition, and then fall back.

The harrying propensity of New Yorkers and its contagiousness, may be illustrated by an anecdote of myself. Shortly after coming to the city from Boston, I started, in idle wandering, down Broadway. Stopping at a shop window, I looked in for five minutes to observe the different kinds of goods arranged there; then passing on I looked into the next, but not so long, for I had begun to feel the magnetism of the people hurrying by. Into the next window I merely

glanced; I began to feel in a hurry, hardly knowing why. I joined the people who were hastening down the street; irresistibly impelled to go faster, faster, and then just as fast as I could without breaking into a run; not caring where I was going, only that it was somewhere, and as quick as possible. At length I found myself at Fulton Ferry-hurried on board the boat, and to the further end, looking toward Brooklyn, just as Columbus looked toward America, and as if it were the promised land. When the boat was a dozen rods from the pier I stepped over the chain; when it approached to within ten feet, I wondered how far I could jump; and when it was about three feet from the pier I did jump, being still in the midst of a rushing crowd. Finally, I came to a stand several miles away from home, breathless, and nearly tired to death. This was but an illustration of the daily life of business men of New York. There is hurry in the air, hurry every where. Every ten or fifteen years there must need be a reinforcement of people from the country to take the places of those whose lives are worn out by this tremendous hurry. No wonder men are nervous and fretful. No wonder they exhaust their vitality so soon, and get so little actual compensation.

I have been to see the "Lifting Cure," and regard it as a good thing. Many people are led to avail themselves of it, because of the fact that in fifteen minutes it affords a man as much exercise as he could get in a whole day in the ordinary way. When young, my mother told me that God's blessing rested upon a healthy body. I have been accustomed to the exercises of a gymnasium, and can work all day, and occasionally all night, without experiencing any bad effects; though it is best that there should be regularity and moderation in all exercises, mental or physical.

Men are living so rapidly that there is danger in the future, even if there is no sickness or disease in the present. It is not easy to guess the ages of people here, because those young in years are old in looks. The life many live draws on their nervous energy, and they are not so strong in body as they ought to be. Most people work too hard. Editors, particularly, work very hard. A few hours after the death of George Peabody, the journals here contained lengthy biographical sketches of him, twenty-four hours before any thing of the kind was published in England, where he died.

Manual labor never hurts a man. Excessive brain labor kills. Over-exertion of the mind is sure to bring disease, and a premature death,

will follow. Hurry and worry do more to disturb the vital economy than any thing else; and when his body is diseased, a man can not be at peace with himself or his neighbor. The most quarrelsome people are generally those who have a war in their own members.

If fathers would be boys again, and mothers would be girls again, finding release from care, and be as joyous as in the days gone by, they would be healthier in the tone of mind, spirit, and body.

A feeling of irreligion is generated in the minds of people by their bad method of living. Business men can not stop to say their prayers in the morning, and at night they are too tired to do so before they drop to sleep. Business so wears upon them that they are old in appearance while still young in years, and dead when they should be in their prime.

The moral result of this haste to be rich is worse than all else.

A poor young man, in a neighboring city, was admitted to a business position in a bank. Dollar after dollar passed through his hand, year after year went by, and he was honest; but the days came when he was overworked-when he toiled hour after hour while he should have been asleep; then in a moment of weakness the dollar stayed in his hand, till at length the first doilar grew to be fifty thousand, and his crime was discovered. The disgrace bowed down his wife and mother with grief, and sent his poor old father a premature grave. One cause of the commission of the crime was that the demands of society was so great, he could not live honestly on a thousand dollars a year. Spending more than he should be yielded to temptation, and now is in State prison. Doubtless another cause of the criminality of this young man was a morbid physical condition, which would not admit of a healthy tone of mind.

A man can bear temptation a thousand times better if he is sound in body, than if he is nervous and dyspeptic. A man with dyspepsia can commit any crime under heaven!

Boys should not have their boyhood abbreviated; they should strive for a good development of their bodies, and be able to boast of their physical endurance; they should have no ambition to enter into commercial life before they are fitted for it.

The best advice for all men is to get good health as well as religion—for the better the health the better the religion—and while this religion is a part of your lives, fills your hearts, and casts a gleam over your ledgers.

Key Thoughts.*

BY F. B. PERKINS.

IF I were wise enough I would draft a perfected code of living, for mind, body, and estate; a sort of universal everlasting sermon, that any body could consult under any circumstances, and, in the proper place among its subdivisions, find exactly the I-don't-know-what which he was desirous to have said to him.

I am, at any rate, wise enough not to undertake this. Yet, in one sense, I have wisdom, and two years' interest on it. Martin Luther, for some things the greatest of the Germans, among his many memorable sayings, put forth this—it is one of the phrases that you can not help wishing you had thought of yourself: "He that is not handsome at twenty, nor strong at thirty, nor wise at forty, nor rich at fifty, will never be handsome, nor strong, nor rich." Consequently, since I am forty-two, I have all the wisdom I am going to have, and two years' interest besides.

What I propose is, a very short scheme of philosophizing, with perhaps a sort of scientific form, and a single rule which can be used in applying the principles—a bundle of Key Thoughts, and a caution how to handle them in trying to unlock Life-Problems. How they may suit other people, remains to be seen. For my own part, I have used them for a long time, and with a good deal of convenience.

1. WHAT IS LIFE?

Reduced to its furthest and fewest elements, I do not see how you can get rid of these two:

- 1. Life is Activity.
- 2. Life is Enjoyment.
 - 2. WHAT ARE THE LIMITS OF LIFE?
- 1. Time.
- 2. Space.
- 3. Ability.
 - 8. With what has Life to Do?

(Besides myself,)

1. Thoughtless Creation.

- 2. Humanity.
- 8. Supreme Being.

4. WHAT IS MAN?

- 1. An Immortal Soul?
- 2. A Perishing Body ?
- 3. No. He is both together—neither alone—at least, for the purposes of my discussion.

Practically, in this world, as I find it necessary to consider him, man is

- 1. A Soul;
- 2. In a Body;
- Entitled to enjoy;
- 4. Bound to help others,
- 5. And subject to a Supreme Being.

There! Not one of those points are new, but I believe that they constitute a system, and that a whole system of human life could be framed into a diagram of which they would constitute the chief divisions. In a certain sense, my thirteen short answers contain, all boiled down to the uttermost, God, the Universe, and Man.

Lastly, my rule.

PROPLE DIFFER.

This is about as important a doctrine as can be stated, for practical purposes.

"Why, of course they do!" says somebody.

"This is a free country. We all know that.

Is your wisdom made up of such scrap tin as this? Every ditch is full of it."

Softly, my dear sir. You are a democrat, are you not?

"Yes. I don't see how any body that is n't foolish or dishonest can be any thing else."

I know you don't. But I do, for I remember that people differ. And if I remember right, you are a Calvinistic Presbyterian?

"Yes. It seems to me impossible that any fair-minded man, with an enlightened conscience and a good knowledge of history, and who lives in prayer, should fail to see that this is the doctrine that the Bible teaches."

I know it seems so to you. But I can see how just such people as you describe can think differently. *People differ*. Do you ever eat meat?

'a'' I do, indeed. Twice a day, and sometimes more."

And don't you think a vegetarian is an ass?
"Yes, I do!"

I don't though. Some find a vegetable diet extremely healthful. People differ. You take a smart cold bath every morning, don't you?

"Always. It must be a dirty fellow that does n't. It keeps me bright and well, too."

Yet I know an abundance of people who do not, and are delicately clean. *People differ*. Do you read a good many novels?

"No; none at all. Mere dissipation of the mind; a foolish waste of time. 1 would burn every novel in the world, if I could."

And make all the young folks read Butler's Analogy, for amusement, as Queen Caroline used to, would'nt you? And you can't see how any one of natural good sense can permit themselves or others such wasteful folly. Because it is folly to you, my dear sir, it is not necessarily folly to every body else. People differ. Novels contain, for a great many persons, a great deal of real nourishment; mental philosophy, good feeling, wit, history, poetry, ethics, even religion; a varied and efficient stimulus, as well as amusement, for the mind.

Conversation like that could be prolonged indefinitely. All I want to show is, that political parties are based on differences of character; so are sects; so are modes of diet, preferences in employment, and habits of reading.

The only real objection to this doctrine, however, is one which does not touch its truth. It is this: if it be so, no one can find any good reason for trying to make converts to his opinions, and you destroy one of the most powerful springs to mental activity and of efforts for reforms and improvement.

Without plunging into the depths of the real reply to this argument, I shall only observe. that there is no danger of its becoming true at present. When people in general are becoming too tolerant of differences for their good, it will be time enough to seek a cure for the evil. Meanwhile, no one who remembers that people differ, and understands it, will get angry in arguing, or think ill of those who differ from him in belief, or despise those whose habits are other than his own. The doctrine that people differ has a whole gospel of intelligence and harmonizing, indulgent philosophy in it. It might almost be made the central belief of a new sect. The Peopledifferarians would have as magnificent a name as the Supralapsarians, or the Christadelphians, and as practical a belief, too. Perhaps they would however grow intolerant, and be rather inclined to persecute or despise and excommunicate all who should refuse to permit people to differ. It would not be the first time that a sect would, logically, knock its own underpinning out from under it.

Without this doctrine, moreover, it is entirely impossible to understand History, Philosophy, Religion. In short, Toleration is the key to Knowledge. Since no two human beings are alike, he who believes in uniformity, and seeks to enforce it, is ignorant of the very alphabet of man. Persecution and Ignorance can not keep apart. Persecution is Ignorance in action.

The Peerless Pearl.

BY ALFRED B. STREET.

ARTH'S peerless pearl! it is not gold,

Though gold be showered like summer rain;

It is not bought, it is not sold,

The glittering dross but shines in vain.

The rich man marks his flatterer's bow,

And flowers rise up where'er he treads;

But suffering sits upon his brow,

And one drear waste around him spreads.

It is not Power: the monarch sways

His scepter o'er his crouching slaves;

An empire basks beneath his rays;

Realms tremble where his war-flag waves.

But midnight sees his sleepless eye,
And daylight lights his couch of wee;
He hears the song but feels the sigh,
While smiles but gild the gloom below.

It is not Fame: her trumpet-blast
Heralds the step where'er it wends;
Carpets of flowers beneath are cast,
And incense breathes, and prayer ascends.

But discord mars the stately sound;

Totter his feet though flowers they press;
Serpents within the wreaths are wound;
Incense and praise bring weariness.

Earth's peerless, priceless pearl is Health!

Health, of all boons, most truly bright!

Pale slaves of Fame, and Power, and Wealth,

Ye bask not in its heavenly light.

A light whose lustre ne'er is dim;
On bounds the blood in rapturous dart!
Exultant strength in every limb,
While light, but vigorous, beats the heart.

No languor creeps along the frame;
No dullness weighs, no torture thrills;
No fever burns in quenchless flame;
The veins no shivering ague chills.

Ask ye where Health, bright Health is found?

Not in the realm where Fashion reigns,

Where Pleasure rolls its endless round,

Or Vice its shattered victim chains.

Not where the wine-cup's poison glows!—
O Heaven, how long; how long, O Earth,
Shall this fell serpent spread its woes,
Foul foe of all of mortal birth!

Ah, could the frenzied tears and cries

Caused by the cup be blent in one,

The bolt would read the shuddering skies,

The flood would blot the sorrowing sun!

Ye ask, O Wealth, and Fame, and Power,
Where the grand blessing, Health, is found!
Not in bright room, or rosy bower,
In the gay dance, or tabret's sound.

Nor yet where downy couches speak,
In tempting tones, for sleep and dreams;
Though Sorrow there forgets to wreak
Its strength, and Fancy's moonlight gleans.

But where live breezes fan the hills,

And waves the tree, and waters bound,

And music swells from warbling rills,

There Health, there glorious Health is found!

Go seek the god where crimson hues

And brightening lights the sun foretell;

Where blossoms bend with diamond dews,

In flowery field or shadowy dell.

Go seek him where the north wind sweeps
The snow-flakes through the misty day;
Go seek him where the cataract leaps,
And showers its gifts of gladdening spray

Go where the wild sea hurls the bark

From wave to wave, and blasts are loud;

Or where the forest's ladder dark

Leans on the crag that smites the cloud.

And while thine eye sees Nature's charms,
Thy heart feels Nature's pulses beat,
Health will uplift thee in his arms,
Kindle thy veins and wing thy feet.

And Epicurean feasts beware,

Let not wreathed Circe tempt the taste!

Roses but hide a deadly lair!

The mirage vails a dreary waste!

The faint blood feels no more its play;
The dull brain lies in lethargy;
Health flees at length in dread away,
And life is but a blighted tree.

Ho, Health! come, Health! Health, first of all!
Fame, Power, and Gold, your sway is naught!
Come, Health! what blessings heed thy call'
With earth's best boons thy reign is fraught!

The Mask of Character.

BY JORL BENTON.

UR souls are remote neighbors at best. No intimacy can fuse the genialist, for, consciously or not, each drops the vail which screens it from the world. What we term Individuality distinguishes the unit from the race. It is mountainous in Plato, Goethe, and Napoleon, but marks also the average man. Over humanity in the aggregate, what a dead prairie level! "The virtue in most request," says Emerson, "is conformity." Society polishes away angles, and would make all of one pattern, but where we escape here and there, and assert ourselves, we put in visible print the traits which make Character.

To read this is the riddle of the Sphynx. We can fathom only imperfectly the motions of a mind. It is said of such a one, he is noble, or generous; of another, that he seeks base and sinister ends; but these words, instead of translating the soul, give merely, by very clumsy methods, some of its seemings. A few adjectives report for every community the men it has measured. We are challenged with a life that, for thirty years, no enemy has ever been able to impeach. But to-morrow there is a defalcation in the bank, and lo! its pious President is missing! At yesterday's tea-table this man was lauded for goodness no words served to express. We discuss the news which bewilders us at dinner to-day, and do not mince the phrases that disfigure his fame. But, Nemo repente fuit turpissimus. This character was only hidden, and we speak as if it had suddenly sloughed away. The flaw was in the metal from the first that broke down the strong column of the edifice. "No one," as the proverb intimates, "becomes suddenly very base."

Shak-peare is so deep because of his fathomless perception. Not in Stratford alone, I suppose, but in his whole experience resided the microscope from which he pictured the world. His pages make a sort of mental stethescope, which reports the mind and motives of the race. What a piercing, transparent eye he must have had among men; yet, while he could multiply types—roystering princes, bragging Falstaffs, and villainous Iagos—that he was so sure in the particular individual always, I doubt.

Seeming and being are the poles asunder. Few men live without making pretences, though they be unconscious. Mr. Thoreau, among modern

notable men, is the most bracing character. He refreshes us by his sturdy, imperturbable assertion of his inmost self. The visitor at Walden needed no letter of introduction, except that which Nature had already provided; and his welcome, if not in courtly guise, was yet real, and raised no question. Though he stood on the heavy-carpeted floor of a Fifth-avenue palace, circled about by smiles and complaisance, he could not be so sure of hospitality.

We have spoken of a character exploded by crime. Instances more striking occur. The common-place man of a town sometimes blazes up suddenly into a rocket, whose radiance the little township will never more confine. The good people of Springfield, Illinois, thought they had a shrewd, quiet lawyer; and as for story-telling, only Esop could be his match. Did they taink, or could they have been made to believe, ten years ago, that his fame was to be linked with the salvation of the Republic, and not only go round the world, but through the flowing centuries—his grave the Mecca to which future pilgrims of Freedom must wend?

The man who lived in Galena was merely a tanner and clerk, and might earn forty dollars a month. What if its citizens had been told that they harbored the greatest captain of all time, vailed by such modesty and silence as no success, no eminence can remove.

It is doubtful if the refinements and nice courtesies of civilization, which seem to bring us so near, are any help to discernment of character. In a large sense society is a game of masks. We find the plainest meaning, forthright frankness, and openness of heart, in quiet rural and sylvan districts. Ceremony, seemingly so cordial and inclosing, only bars us out. A story is told of a little girl, who was playing in the corner of the room while her father and mother were entertaining a visitor. The lady who had called was listening to criticism of another lady, who was pronounced very different from what she should be. When the visitor was about retiring, followed by benedictions and friendly smiles, the little girl remarked with great naivete: "That's the way they'll talk about you when you're gone."

Many readers will remember one of Bayard Taylor's letters from Lapland, in which the simple manners of the people were so uniquely described; the housekeeping in one room; the boundless trust in dispensing hospitality; and the maiden attendant at the bath. And withal, what pureness of thought and delicacy of feeling. It was almost as if a new Eden had been discovered, where unconsciousness of guile displaced maxim and law.

When we reflect upon the various misunderstandings in life, the false estimates put upon actions, we are driven to believe that nine-tenths are the result of ignorance of character. Our friend pains us by a remark. How do we know what he means? Doubtless, if we could reach his point of view, summon into our soul his emotions and intent, we should thank him, instead of feeling outraged. We blame a neighbor for certain severe lapses into vice, which he loathes more than we, and which he daily resists with strength beyond our conception. If our slender and shining virtue, which is mainly lack of temptation, could be laid bare against his, how might its lustre fade! But there is no avenue that leads directly to our neighbor's heart. We meet our most intimate, life-long friend, merely at the vestibule, and know nothing of the processes, or the mainsprings that direct them, within. It is a clumsy expedient to go as we do into our own thought, and then by guess, and hypothesis, and assumed circumstances, make something which shall represent

Speech does not solve our riddles, or give more than a partial communication. then the same words are not the same spoken by another. "Good Heavens!" says Carlyle, "from the inmost Thought of a man to the eternal truth of a Thing as it lives in Nature. there is, one would suppose, a sufficient interval! Consider it, and what other intervals we introduce! The faithfulest, most glowing word of a man is but an imperfect image of the thought, such as it is, that dwells within him; his best word will never but with error convey his thought to other mind; and then, between his poor thought and Nature's Fact, which is the Thought of the Eternal, there may be supposed to lie some discrepancies, some short-comings! Speak your sincerest, think your wisest, there is still a great gulf between you and the And now, do not speak your sincerest, and what will inevitably follow out of that; do not think your wisest, but think only your plausiblest, your showiest for parliamentary purposes, where will you land under that guidance?"

Our study demands the broadest rules; no large fact to be too forcibly emphasized, no trivial one cmitted. We must know too, how to manage the side-lights, and when indirect traits tell most. The face is a kaleidoscope of shifting pictures, where no two are ever alike. Then there is the clear, trusty eye, and the one you can not look down in through the sediment. "A rogue will never look you in the face," says Thoreau, "nor does an honest man look at you as if he had his reputation to establish." An Eastern sage who was appointed to test the merits of Zoroaster, did not wait for him to speak, but as he advanced into the room said: "His form and gait can not lie, and nothing but truth can proceed from them."

Consistency of character was considered impossible by some of the older writers. "No one," says Montaigne, "lays down a certain plan of life; we only deliberate by pieces." And says Seneca, "It is a great thing to be always the same man." We are the sport of moods and occasions; and some whim, perhaps, dominates our most noted behavior. Plutarch says of Nero, that he was so tender-hearted when he began to reign, that, having the sentence of a condemned man brought to him to sign, he exclaimed, "Oh that I had never been taught to write." Empedocles was sorely puzzled by a contradiction in the character of the Agregentines, "who gave themselves up to delights as if each day was to be their last, and yet built their houses as if they were to live for ever."

We can not judge from the convivial hour; from a unique act; from glimpses got in the rush of affairs, or from a few occasions. If we heed the buzz of gossip, or do not sift rumors, we are lost in the outset. Candor is necessary. "Let us treat men," says Emerson, "as we do pictures—give them the benefit of a good light."

It is noteworthy that the word Love used to symbolize the religion of the New Testament, and which covers the circle of duty, is of one root with Charity. No person carries a window in his breast; and if he did, the shutters most likely would be closed. Let us not be too sure of our neighbor's fault. It is nobler, often, to extend sympathy than to impute blame—nobler not only, but truer.

We can not explain the chemistry of fellowship: we know it exists. I was repelled by the stranger when he entered the room, and foresee that no introduction will ever bring us together; yet there are persons who hold me as by cords of iron. We can not escape, if we would, this polarity which divides even the best. "Excellent people wonder," says Alcott, "why they can not

meet and converse. They can not. No. Their wits have lapsed away and left them helpless. Why but because of hostile temperaments, states of animation?" Elsewhere in The Tablets he remarks, "Affinities tell. Every one is not for every one, nor any one good enough to flatter or scorn any; the kindest recognition being due to the meanest; even the humblest conferring a certain respect by his call. Yet one might as properly entertain every passing vagary in the presence-chamber of his memory, as every vagrant visitor seeking his acquaintance. Introductions are of small account. What are one's claims, a glance detects; if ours, he stays, and house and heart are his by silent understanding. If not ours, nor we his, the way is plain. He leaves, presently, as a traveler the innkeeper's door, an inmate for his meal only and the night."

We shift our masks, and are never alike to two persons. I may firmly will otherwise, and bestow the nicest courtesies, yet there are few who unlock my tongue. Who is not conscious of persons highly esteemed—nay, venerated—with whom he can not sit at ease? Dr. Holmes's John, in the "Autocrat of the Breakfast Table," of whom he made six: his John, John's John the actual John, and-so-forth, is a witty illustration of individual many-sidedness.

Do we wonder at confusion, or misunderstanding, where each plays the harlequin to each f For, in the thickest of life, we only meet to exchange salutations in domino. The theme is fitly rounded by some sweet and touching verses whose author perceives the soul "BEHIND THE MASK."

It was an old, distorted face—
An uncouth visage, rough and wild;
Yet from behind, with laughing grace,
Peeped the fresh beauty of a child.

And so, contrasting fair and bright,
It made me of my fancy ask
If half earth's wrinkled grimness might
Be but the baby in the mask.

Behind gray hairs and furrowed brow, And withered look that life puts on, Each, as he wears it, comes to know How the child hides, and is not gone.

For, while the inexorable years

To saddened features fit their mold,

Beneath the work of time and tears

Waits something that will not grow old!

And pain, and petulance, and care,
And wasted hope and sinful strain
Shape the strange guise the soul doth wear,
Till her young life look forth again.

The beauty of his boyhood's smile—
What human faith could find it now
In yonder man of grief and guile—
A very Cain, with branded brow?

Yet overlaid and hidden still
It lingers, of his life a part;
As the scathed pine upon the hill
Holds the young fiber at its heart.

And, happy, round the Eternal Throne, Heaven's pitying angels shall not ask For that last look the world hath known, But for the face behind the mask.

Growth and Development.—IV.

BY ARCHIBALD MACLAREN, OF THE OXFORD GYMNASIUM.

INHARMONIOUS BODILY DEVELOPMENT.

It might be a task not unworthy the attention of medical men to inquire if partial and inharmonious condition of bodily development is not the cause of many forms of debility and also of some of the active ailments of life—the origin of the phrase, so pregnant with meaning, though happily not of literal accuracy, that "every man has his weak part." Indeed, I should be disposed to consider the man whose frame is generally and uniformly weak, safer than he whose frame is partially and locally strong, because natural tendency is to gauge and estimate

the general strength by the power of the strongest part. And just as the strength of a rope or chain, is but equal to its weakest part, and just as the dependence will be on the general strength of the rope or chain, and its weak point be unnoted until its failure, so will the voice of the weak part of the human body be silenced by the general claims of the rest until the time of exposure and trial.

That special provision has not been made a our public schools for the full physical training of youths has arisen from no carelessness or neglect on the part of the earnest-minded men conducting them, but simply because it has not hitherto been recognized as a want-as a thing to be taught or directed or supervised. The very phrase recreative explains the whole extent of the want as at present comprehended, and the provision made to meet the want; but to the extent of this recognition it has been met at the public schools at any rate with a completeness which leaves little to be desired. Schoolmasters know from the best of all sources, practical experience, that unless boys have ample play-time and play-space the tone and energy of mind and body sink, and the school work suffers; and therefore an ample play-ground and a fair allowance of play hours, for such as will avail themselves of them, are held as important as a commodious school-room or a well-supplied table.

THE PUBLIC SCHOOLS OF ENGLAND.

England may well be proud of her public schools, for no other country has any thing comparable with them, indeed has neither the schools, nor the scholars, nor the families, nor the firesides from which the scholars are drawn. For we must go far back—far as the home-habits and home-teaching of ancestors in forgotten generations—if we would get at the origin of character. Out of England we never find boys, only little men, embryo soldiers, lawyers, and doctors, the specialties of their avocations sprouting upon them; and their schools have nothing in common with ours, present no point of resemblance. The public schools of England are to it what the heart is to the human bodythe center and source of its vitality and power. the spot through which its life-blood flows, from which is distributed to every spot, near or far, the young, fresh, bright stream to strengthen, to revivify, and to renew.

I have dwelt thus long upon what I conceive to be the necessity of providing a regular system of physical education in connection with the purely mental culture of schools, because it is at this period of life, and it is under a school regime that it is most needed, and would most powerfully influence health and strength, present and future. And I have spoken thus strongly of what I conceive to be the error and danger of exclusive or undue culture of either mind or body, because it is at this period of life, and it is under such circumstances, that the deepest and most lasting impressions are received and the most enduring tastes and habits acquired; habits and tastes that will almost inevitably be carried into succeeding stages of life, and be intensified at every stage. In the

University this is markedly the case; here the youth who at school devoted his time and his thoughts exclusively to study, leads an existence still more artificial, now become to him almost a natural one, for the law of adaptability smooths down many things that are irksome when first essayed. Being now free, or more correctly speaking, having now none to overrule and few to advise, he follows his own inclinations, and this the more keenly that these are the same which have already guided him to distinction. He came up with a school reputation for ability, and this must be preserved, must be confirmed and extended, for school honors are not the fee, only the earnest-money of the bargain yet to be fulfilled; its eclat is not only the god-speed encouragement at a hopeful starting, not the congratulatory cheer at triumph gained. And no one knows this better than the youth himself, and better than himself no one knows that not by talents alone, not by genius alone, was he enabled to plant his foot on the vantage-ground which he occupies, not by these, but by labor; and knowing this he believes that what he thought necessary before to win, is no less necessary now to keep; so the old rule of exclusive brain-work is re-begun. All the early day he reads; only in the afternoon does he go outside the college walls, and then only for a hurried, feverish walk-a very nightmare counterfeit of true exercise to the wants of a frame like his. His lamp is lit at the setting of the sun and scarcely extinguished at its rising. Does he never think when the wick is burned down and the oil is consumed. when the one is renewed and the other is replenished, does he never think, I wonder, as he sits with the wet towel round his forehead and sips his green tea, stimulating and urging the weary brain to greater effort, that the lamp of life within him needs trimming and renewing?

EXCESS OF PHYSICAL CULTURE.

What is the other extreme? for we read in evidence laid before the Public School Commissioners that boys who expect to excel at cricket must spend seven hours a day in the cricket-field. "My boy shall cultivate his body." Parents may have their wishes in this direction carried further than they anticipated. "My son spends his days on the river," writes one to me, a clergyman with his quiver well filled; "his success in life depends on his success at Oxford, and I tremble as the time approaches for him to go into the schools.

These are two extremes, but they divide not the university between them. The devoted

bookworm and the devoted athlete are equally removed from another class-a fast diminishing one let it be thankfully recorded—a class which cultivates neither mind nor body, with whom the day is frittered away and the night dissipated, with whom time passes without purpose, or profit, or pleasure; at least such purpose as a man should deign to pursue, and such pleasures as he should condescend to accept. Nothing now, leading to nothing hereafter; the mental advantage nothing, the physical advantage "Why cumsomething less than nothing. bereth he the ground?" Year by year, term by term, this class is diminishing. Year by year, term by term, its antithesis is increasing, the true class, the true men, the men well worth devoting life to form, the class well worth devoting life to increase. For as the bookworm had his antithesis in the enthusiast athlete, so has the idler his in another type, in the man who feels that he is a man, a man with a body as well as a brain, muscles as well as nerves, and who has no intention of sacrificing either to the other, or either for the other, even if such immolation could be to its advantage. But he knows to the contrary, he feels to the contrary. He feels and knows that by friendly rivalry and interchange of labor and of rest both are benefited; that each may be fully cultivated without infringement of the privileges of its companion, but rather to their mutual gain and well-being. Therefore he has no intention to hazard brain-fever or break-down of any kind from reckless mental effort, just as he has no intention to subject himself to the ignominy of a possible failure in the schools. He has no faith in delaying until the last minute and then as the phrase goes "reading his head off." He has still less in "passing by dint of gook luck." And he has least of all in trusting to "natural sharpness," which on mythical occasions is reputed to have "floored the examiners." He knows that there is a given amount of work to be done in a given time, and he knows he can do it if he begins at once, and with regulated effort works steadily on to the end. And this he means to do, and this he does.

I select for illustration the Universities thus specially, as they are perhaps more distinctly an extension of school-life than the early stages of any of the professions or callings which imply intellectual labor for actual employment; and because it is there I have been able to test by practical observation, over a very long period, the opinions I now venture to advance. A complete change in a boy's habits we occasionally see, an utter reversal of all antecedent

tastes we sometimes hear of, but, in a great majority of cases, school habits and school tastes become consolidated and confirmed into traits distinguishing more advanced life. In more senses than one "the boy is father to the man."

In the second stage, the one immediately succeeding school-life, while the upward growth although nearly at its close, is still going on, an amount of benefit, second only to that obtainable in boyhood, may be obtained from the regular practice of systematized exercise. It matters not whether the youth be reading for a University degree, or has passed at once to his future profession, his frame is still growing, still changing, still pliant, still impressionable, still liable to be checked in its natural development, and stunted or turned aside from its true proportions, by inactive, sedentary, or exclusively mental pursuits, and still capable of having growth and development powerfully stimulated, and still susceptible of being rapidly advanced healthward by systematized exercise.

MATURE FRAMES.

As life advances, and as the frame becomes mature with all its structures complete and consolidated, susceptibility of material change diminishes, and actual gain in bodily power is comparatively uncertain and slow.* But there is no period of active life in which a man may not profit by systematized exercise if judiciously pursued; only let him use the same discretion in this as he would in practicing any exercise of any other kind, abiding by the simple movements of the earlier courses, and leaving the lither limbs and more elastic frames those where the demand for effort is sudden or great.† And let him not be disappointed if his progress is slow, or discouraged if he sees younger men pass him on the road; he must remember that he starts late, and it is with him at best the alter-

^{*}It is however a noteworthy fact, and one showing with rather startling emphasis the truth of the adage, that "every rule has its exception," that of the first five hundred names on the book of the Oxford Gymnasium the greatest increase in development is made by a man in his thirty-sixth year. From the 22d of October to the 21st of December, 1862, he gained in hight, one-eighth of an inch; in weight, thirteen pounds; in breadth of chest, four and a half inches; around fore-arm, one inch and seven-eighth; upper arm, one inch and one-eighth.

[†] The first course of the system may be freely and almost unconditionally recommended to men throughout what may be called middle life; care being taken to use a bell and bar well within the physical capacity. The best time for this practice is in the early morning, immediately after the bath, and when regularly taken it need not extend over more than a few minutes.

native of "better late than never;" but late is late and implies disadvantage; he is trying to do, as well as he can, what could only have been done perfectly in its proper season, and that has passed away. The educational time of mind and body is the same, the growing time; but

just as we see men whose opportunities of mental culture in early life have been small or neglected, in a measure retrieve the loss by later efforts, so may the neglected culture of the body also be retrieved by after endeavors, if judiciously and perseveringly made.

Hot-House Brains.

BY R. R. BOWLER.

OT many years ago it was flat blasphemy to blame any thing but Providence for disease and death. Pestilence was the hand of God, and it was impious to talk of want of sewerage. Now it is quite orthodox to believe that God has placed men's lives largely in their own hands, that death is less often the decree of Providence than the doings of the man, that there are more suicides than the Morgue accommodates or we read of in the papers. The art of living is indeed a new found art, but it is worth all the "lost arts" together. And/of all the lessons of modern physiology none is plainer or more important than this, that after a man has come to support and look out for himself, notwithstanding inherited disease, early neglect, and the likelihood of accident, the chances are that he will himself cut short his years by his voluntary transgressions of the laws of

Now although this does not mean that death may be banished from the world, it does mean this, that there is a very great waste of human life which is entirely unnecessary. The more valuable the life, the greater is the loss to the community. And this brings us to what we have specially to say.

These laws of life, with the information which will render the knowing of them of use, have not as yet come home practically to the mass of the people. It is one of the great duties of the thinking men of this age so to bring them home—by constant preaching and reiteration of them in our schools, from our platforms and pulpits (the latter not the least), and in papers and popular books. What shall we say then when we find that it is these very thinking men who are most thoughtless—or most criminal—in regard to this matter, as it concerns themselves?

There are few useful, broad men of our day

but know the worth of these laws. And yet how few act upon them; and how few are willing to blame themselves for what they are well aware is their own work, and theirs only!

One of the foundation laws is this: that we must be as temperate in our brain-work and as varied in our whole work, as we must be temperate and varied in our food and drink. What chance of life would that man have who should be always eating or drinking, giving his stomach no time for rest? Modern physiology tells us in no uncertain words that a man can no more use his brain all the time than he can use his stomach all the time, and that a headache of a certain kind is just as reliable in telling us that we have overworked or abused our brain, as a stomach-ache is in telling us like things of our eating and drinking. Too much brainwork or want of sleep-rest, is as sure to give a man typhoid or brain fever, and at last to kill him or make him useless, as intemperance and gluttony are sure to bring on their train of diseases and ruin and at last kill him.

Nowhere should this be more persistently urged-and nowhere, unfortunately, is it less urged-than among our intellectually ambitious young men. Our colleges suffer terribly from this mistake; scarcely a college class but has more than one such suicide. We have in our mind's eye just such an one, a youth of rare intellectual promise, whom Death found at his books and took in his prime the summer past. Approved for his "faithfulness" to study, he had neglected those laws of life which he knew full well, and the penalty was swift and sure. Not the keen dagger, nor the fatal bullet, nor the dark plunge could have made him more a suicide. And this may go largely to explain why college honor-men are not the honor-men of the world; if they do not die, they break down and float into and about the great world —mere wrecks.

In brain-work, as in some other things, Young America needs rather to be held back than hallooed on. The common vice of laziness is not apt to be the danger with these eager young men, active of brain, whose physicomental development is still in progress, and who are liable to be stunted by overwork in the period of growth. We remonstrated not a fortnight since, with one of these, whose brilliancy is the sword he whets but to his own destruction, and got this answer: "I own to being ambitious. By the time that I am twenty-five, I mean to have and to enjoy power and position. So that I can not afford to rest now; I must work all the harder, and put off my enjoyment and my rest till by-and-by."

Here is the rub, the fallacy. This sort forget that haste sometimes makes waste, that "festina lente" is good common sense though it is in Latin. They get themselves down to barely seven hours sleep, working by gaslight and in the early morning, studying, reading, and writing, until their over-burdened brains give way. Nature reasserts herself. One of two things must happen; they must have resort to stimulants and ruin themselves thus, or they must break down totally. The power and position they fail of; the rest never comes. They live only to regret.

The death last year of a prominent and overworked journalist of scarcely middle-age, served to call attention to this state of things, but also to develop a most disastrous fallacy in this connection. A city daily remarked in commenting on Mr. Raymond's death (which was strikingly in parallel with that of Mr. Halpine a year before), that it was better to live a short life, vigorous, useful, and brilliant, than to spin out one's vitality into many more years, and accomplish little more than the mere longevity. This is a most unfair begging of the question; it in effect compares the short life of a brilliant man with the long life of stupidity. The actual problem is whether a man of certain gifts will do best to economize his work and his life, or, by working at high pressure in his early years, find no late ones in which to do any work.

The issue presented to brain-workers of promise is therefore this, whether it pays to take off from one end of life for the purpose of crowding more work into the other—in which way they can, all things being considered, accomplish most and best work? Certainly, youth

and the work of youth are grand things-the freshness, the vigor, the enthusiasm! But youth after all is not so much a matter of years; there are men old at thirty, and there are men still young at the limit of life. To combine youth of body and mind and spirit with experience of years is the wisest activity; to do this longest is the wisest life. Let a man obey at his best the physical and other laws of life, and he can be at forty no less a youth than he was at twenty. With his added knowledge, his continued development, his stored experience, isn't it fair to say that one of his years after forty is worth more, in real fruition, to himself and the community, than any one at twenty or near by ?

Well, then, these are the facts: A man can not make a hot-house of his brain, especially while young, without cutting short his life—in most cases, at forty or thereabouts. He has, say, twenty years of work. If he treats himself properly, works only at moderate pressure, allows his natural development, physical and mental, he is as likely to live, vigorous, till seventy. He has, to put it lower, forty years of work—double what the forcing process would allow him. And we have pointed out that it is not unfair to claim for each of the forty years a much higher average activity than for each of the twenty.

As to the notion of our friend, that he must slave now to enjoy hereafter, that is still more fallacious. If he lived, which is unlikely, he would be a wreck, unable to enjoy. Moreover there is no such thing as lumping enjoyment. No man ever enjoyed himself by making a business of it. We must take it as it comes, distributed through life, as our work should be—the butter with the bread, not to be eaten by the pound after we have finished the loaf.

Every young man of parts has thus to choose between the hot-house and open-air systems of brain nurture. It is true that the multiplicity of things now to be learned presses him hardthis is the more reason why he should consider. The habit-model of youthful brains of this age should be that great scholar and worker, who said that he accomplished his vast amount of daily work by taking "plenty of sleep." Plenty of sleep, plenty of exercise, plenty of wholesome food, plenty of time for its digestion, plenty of all that Nature calls for-these are to build up the intellectual giants who are to lead progress in the time to come. Let those aspirants who disdain Nature and her laws have a care! "In the physical world," it has been well written, "there is no forgiveness of sin!"

OUR STUDIES IN PHYSIOLOGY

FIFTH STUDY.*

RESPIRATION.

THE blood, the general nature and proper-- ties of which have been described in the preceding study, is the highly complex product, not of any one organ or constituent of the body, but of all. Many of its features are doubtless given to it by its intrinsic and proper structural elements, the corpuscles; but the general character of the blood is also profoundly affected by the circumstance that every other part of the body takes something from the blood and pours something into it. The blood may be compared to a river, the nature of the contents of which is largely determined by that of the head-waters, and by that of the animals which swim in it, but which is also very much affected by the soil over which it flows, by the water-weeds which cover its banks, and by affluents from distant regions; by irrigation-works which are supplied from it, and by drain-pipes which flow into it.

One of the most remarkable and important of the changes effected in the blood is that which results, in most parts of the body, from its simply passing through capillaries, or, in other words, through vessels, the walls of which are thin enough to permit a free exchange between the blood and the fluids which permeate the adjacent tissues.

Thus, if blood be taken from the artery which supplies a limb, it will be found to have a bright red color; while the blood drawn, at the same time, from the vein of the limb, will be of a purplish hue, so dark that it is commonly called "black blood." And as this contrast is met with in the contents of the arteries and veins in general (except the pulmonary artery and veins), the scarlet blood is commonly known as arterial, and the black blood as venous.

This conversion of arterial into venous blood takes place in most parts of the body while life persists. Thus if a limb be cut off and scarlet blood be forced into its arteries by a syringe, it will issue from the veins as black blood, so long as the limb exhibits signs of persistent vitality; and when these disappear the blood will no longer be changed.

When specimens of venous and arterial blood are subjected to chemical examination, the differences presented by their solid and fluid constituents are found to be very small and inconstant. As a rule, there is rather more water in arterial blood and rather more fatty matter. But the gaseous contents of the two kinds of blood differ widely in the proportion which the carbonic acid gas bears to the oxygen; there being a smaller quantity of carbonic acid in venous than in arterial blood.

And it may be experimentally demonstrated that this difference in the gaseous contents is the only essential difference between venous and arterial blood. For if arterial blood be shaken up with carbonic acid, so as to be thoroughly saturated with that gas, it loses oxygen, gains carbonic acid, and acquires the hue and proprieties of venous blood; while, if venous blood be similarly treated with oxygen, it gains oxygen, loses carbonic acid, and takes on the . color and properties of arterial blood. The same result is attained, though more slowly, if the blood in either case be received into a bladder, and then placed in the carbonic acid or oxygen gas; the thin moist animal membrane allowing the change to be effected with perfect ease, and offering no serious impediment to the passage of either gas.

The physico-chemical processes involved in the exchange of carbonic acid for oxygen when venous is converted; into arterial blood, or the reverse, in the cases mentioned above, are not thoroughly understood, and are probably somewhat complex.

It is known that gases, mechanically held by a fluid in a given proportion, tend to diffuse into any atmosphere to which they are exposed, until they occupy that atmosphere in corresponding proportion; and that gases separated by a dry porous partition, or simply in contact, diffuse into one another with a rapidity which is inversely proportioned to the square roots of their densities. A knowledge of these physical principles does, in a rough way, lead us to see how the gases contained in the blood may effect an exchange with those in the air, whether the blood be exposed, or inclosed in a membrane.

But the application of these principles gives no more than this sort of general insight. For in the first place, the gases of the blood are not held in a merely mechanical way in it; the oxygen seems to be loosely combined with the

Our Studies in Physiology are condensed from Prof. T. H. Huxley's English works, not published here.

red corpuscles, and there is reason to think that a great part, at least, of the carbonic acid, is chemically connected, in a similarly loose way, with certain saline constituents of the serum. And, secondly, when arterialization takes place through the walls of a bladder, or any other thin animal membrane, the matter is still further complicated by the circumstance that moisture dissolves carbonic acid far more freely than it will oxygen. A moist bladder, partially filled with oxygen, and suspended in carbonic acid gas, becomes rapidly distended, in consequence of the carbonic acid gas passing into it with much greater rapidity than the oxygen passes out.

The cause of the change of color in blood—of its darkening when exposed to carbonic acid, and its brightening when under the influence of oxygen—is not thoroughly understood. There is reason to think, however, that the red corpuscles are rendered somewhat flatter by oxygen gas, while they are distincted by the action of carbonic acid. Under the former circumstances they may, not improbably, reflect the light more strongly, so as to give a more distinct coloration to the blood; while, under the latter, they may reflect less light, and, in that way, allow the blood to appear darker and duller.

This, however, is not the whole of the matter; for solutions of hæmoglobin or of blood crystals even when perfectly free from actual blood corpuscles, change in color from scarlet to purple, according as they gain or lose oxygen. It has already been stated that oxygen most probably exists in the blood in loose combination with hæmoglobin. But, further, there is evidence to show that a solution of hæmoglobin, when thus loosely combined with oxygen, has a scarlet color, while a solution of hæmoglobin, deprived of oxygen, has a purplish hue. Hence arterial blood, in which the hæmoglobin is richly provided with oxygen, would naturally be scarlet, while venous blood, which not only contains an excess of carbonic acid, but whose hæmoglobin also has lost a great deal of its oxygen, would be purple.

Whatever may be their explanation, however, the facts are certain, that arterial blood, separated by only a thin membrane from carbonic acid, or from a fluid containing a greater amount of carbonic acid than itself, becomes venous; and that venous blood, separated by only a thin membrane from oxygen, or a fluid containing a greater proportion of free oxygen than itself, becomes arterial.

In these facts lies the explanation of the conversion of scarlet blood into dark blood as it.

passes through the capillaries of the body, for the latter are bathed by the juices of the tissues which contain carbonic acid, the product of their waste and combustion, in excess. On the other hand, if we seek for the explanation of the conversion of the dark blood in the veins into the scarlet blood of the arteries, we find, first, that the blood remains dark in the right auricle, the right ventricle, and the pulmonary artery; second, that it is scarlet not only in the aorta, but in the left ventricle, the left auricle, and the pulmonary veins.

Obviously, then, the change from venous to arterial takes place in the pulmonary capillaries, for these are the sole channels of communication between the pulmonary arteries and the pulmonary veins.

But what are the physical conditions to which blood is exposed in the pulmonary capillaries ?

These vessels are very wide, thin walled, and closely set, so as to form a network with very small meshes, which is contained in the substance of an extremely thin membrane. This membrane is in contact with the air, so that the blood in each capillary of the lung is separated from the air, by only a delicate pellicle, formed by its own wall and the lung membrane. Hence an exchange very readily takes place between the blood and the air; the latter gaining moisture and carbonic acid and losing oxygen.*

ESSENTIAL ETEP IN BREATHING.

This is the essential step in respiration: that it really takes place may be demonstrated very readily by the experiment described in the First Study in which air expired was proved to differ from air inspired, by containing more heat, more water, more carbonic acid and less oxygen; or, on the other hand, by putting a ligature on the wind-pipe of a living animal so as to prevent air from passing into or out of the lungs, and then examining the contents of the heart and great vessels. The blood on both sides of the heart, and in the pulmonary veins and aorta, will be found to be as completely venous as in the vena cava and pulmonary artery.

But though the passage of carbonic acid gas and hot watery vapor out of the blood, and of

^{*}The student must guard himself against the idea that arterial blood contains no carbonic acid, and venous blood no exygen. In passing through the lungs venous blood loses only a part of its carbonic acid; and arterial blood, in passing through the tissues, loses only a part of its exygen. In blood, however venous, there is in health always some exygen; and in even the brightest arterial blood there is actually more carbonic acid than exygen.

oxygen into it, is the essence of the respiratory process—and thus a membrane with blood on one side and air on the other, is all that is absolutely necessary to effect the purification of the blood—yet the accumulation of carbonic acid is so rapid, and the need for oxygen so incessant, in all parts of the human body, than the former could not be cleared away, nor the latter supplied, with adequate rapidity, without the aid of extensive and complicated accessory machinery.

No conditions can be more favorable to a ready exchange between the gaseous contents of the blood and those of the air in the air-cells, than the arrangements which obtain in the pulmonary capillaries; and, thus far, the structure of the lung fully enables us to understand how it is that the large quantity of blood poured through the pulmonary circulation becomes exposed in very thin streams, over a large surface, to the air. But the only result of this arrangement would be, that the pulmonary air would very speedily lose all its oxygen, and become completely saturated with carbonic acid, if special provision were not made for its being incessantly renewed.

NUMBER OF BREATHS PER MINUTE.

If an adult man, breathing calmly in the sitting position, be watched, the respiratory act will be observed to be repeated thirteen to fifteen times every minute. Each act consists of certain components which succeed one another in a regular rhythmical order. First, the breath is drawn in, or inspired; immediately afterward it is driven out, or expired; and these successive acts of inspiration and expiration are followed by a brief pause. Thus, just as in the rhythm of the heart the auricular systole, the ventricular systole, and then a pause follow in regular order; so in the chest, the inspiration, the expiration, and then a pause succeed one another. At each inspiration of an adult wellgrown man about thirty cubic inches of air are inspired; and at each expiration the same, or a slightly smaller volume (allowing for the increase of temperature of the air so expired) is given out of the body.

DISAPPEARANCE OF OXYGEN.

Nery close analysis of the expired air shows, firstly, that the quantity of oxygen which disappears is always slightly in excess of the quantity of carbonic acid supplied; and secondly, that the nitrogen is variable—the expired nitrogen being sometimes slightly in excess of, sometimes slightly less than that inspired, and sometimes remaining stationary.

From three hundred and fifty to four hundred cubic feet of air are thus passed through the lungs of an adult man taking little or no exercise, in the course of twenty-four hours; and are charged with carbonic acid, and deprived of of oxygen, to the extent of nearly five per cent. This amounts to about eighteen cubic feet of the one gas taken in, and of the other given out. Thus, if a man be shut up in a close room, having the form of a cube seven feet in the side, every particle of air in that room will have passed through his lungs in twenty-four hours, and a fourth of the oxygen it contains will be replaced by carbonic acid.

The quantity of carbon eliminated in the twenty-four hours is pretty clearly represented by a piece of pure charcoal weighing eight ounces.

The quantity of water given off from the lungs in the twenty-four hours varies very much, but may be taken on the average as rather more than half a pint, or about nine ounces. It may fall below this amount, or increase to double or treble the quantity.

BLASTICITY OF THE LUNGS.

The lungs are elastic, whether alive or dead. During life the air which they contain may be further affected by the contractility of the muscular walls of the bronchial tubes. If water is poured into the lungs of a recently killed animal, and a series of electrical shocks is then sent through the bronchial tubes, the latter contract, and the water is forced out. Lastly, during life a further source of motion in the bronchial tubes is provided by the cilia—minute filaments attached to the epithelium of the tubes, which incessantly vibrate backward and forward, and work in such a manner as to sweep liquid and solid matters outward or toward the trachea.

KINDS OF RESPIRATION.

Let us now consider what would be the result of the action of the parts of the respiratory apparatus, if the diaphragm alone should begin to contract at regular intervals.

When it contracts it increases the vertical dimensions of the thoracic cavity, and tends to pull away the lining of the bottom of the thoracic box from that which covers the base of the lungs; but the air immediately rushing in at the trachea, proportionately increases the distension of the lung, and prevents the formation of any vacuum between the two pleurs in this region. When the diaphragm ceases to contract, so much of the elasticity of the lungs as was neutralized by the contraction of the

diaphragm, comes into play, and the extra air taken in is driven out again. We have, in short, an Inspiration and an Expiration.

Suppose on the other hand that, the diaphragm being quiescent, the external intercostal muscles contract. The ribs will be raised from their oblique position, the antero-posterior dimensions of the thoracic cavity will be increased, and the lungs will be distended as before to balance the enlargement. If now the external intercostals relax, the action of gravity upon the ribs, and the elasticity of the lungs, will alone suffice to bring back the ribs to their previous positions and to drive out the extra air; but this expiratory action may be greatly aided by the contraction of the internal intercostals.

Thus it appears that we may have either diaphragmatic respiration or costal respiration. As a general rule, however, not only do the two forms of respiration coincide and aid one another—the contraction of the diaphragm taking place at the same time with that of the external intercostals, and its relaxation with the contraction of the internal intercostals-but sundry other accessory agencies come into play. Thus, the muscles which connect the ribs with parts of the spine above them, and with the shoulder, may, more or less extensively, assist inspiration; while those which connect the ribs and breast-bone with the pelvis, and form the front and side walls of the abdomen, are powerful aids to expiration. In fact they assist expiration in two ways; first, directly, by pulling down the ribs; and next, indirectly, by pressing the viscera of the abdomen upward against the under surface of the diaphragm, and so driving the floor of the thorax upward.

It is for this reason that, whenever a violent expiratory effort is made, the walls of the abdomen are obviously flattened and driven toward the spine, the body being at the same time bent forward.

In taking a deep inspiration, on the other hand, the walls of the abdomen are relaxed and become convex, the viscera being driven against them by the descent of the diaphragm—the spine is straightened, the head thrown back, and the shoulders outward, so as to afford the greatest mechanical advantage to all the muscles which can elevate the ribs.

DIFFERENCE IN SEX.

It is a remarkable circumstance that the mechanism of respiration is somewhat different in the two sexes. In men, the diaphragm takes the larger share in the process, the upper ribs moving comparatively little; in women, the re-

verse is the case, the respiratory act being more largely the result of the movement of the ribs.

SIGHING, COUGHING, RTC.

Sighing is a deep and prolonged inspiration. Snifting is a more rapid inspiratory act, in which the mouth is kept shut, and the air made to pass through the nose.

Coughing is a violent expiratory act. A deep inspiration being first taken, the glottis is closed and then burst open by the violent compression of the air contained in the lungs by the contraction of the expiratory muscles, the diaphragm being relaxed and the air driven through the mouth. In sneezing, on the contrary, the cavity of the mouth being shut off from the pharynx by the approximation of the soft palate and the base of the tongue, the air is forced through the nasal passages.

LUNGS COMPARED TO A BELLOWS.

It thus appears that the thorax, the lungs, and the trachea constitute a sort of bellows, without a valve, in which the thorax and the lungs represent the body of the bellows, while the trachea is the pipe; and the effect of the respiratory movements is just the same as that of the approximation and separation of the handles of the bellows, which drive out and draw in the air through the pipe. There is, however, one difference between the bellows and the respiratory apparatus, of great importance in the theory of respiration, though frequently overlooked; and that is, that the sides of the bellows can be brought close together so as to force out all, or nearly all, the air they contain; while the walls of the chest, when approximated as much as possible, still inclose a very considerable cavity; so that, even after the most violent expiratory effort, a very large quantity of air is left in the lungs.

The amount of this air which can not be got rid of, and is called residual air, is, on the average, from seventy-five to one hundred cubic inches.

About as much more in addition to this remains in the chest after an ordinary expiration, and is called supplemental air.

LUNG CAPACITY.

In ordinary breathing, 20 to 30 cubic inches of what is conveniently called tidal air pass in and out. It follows that, after an ordinary inspiration, 100 plus 100 plus 30 equals 230 cubic inches, may be contained in the lungs. By taking the deepest possible inspiration another

100 cubic inches, called complemental air, may be added.

It results from these data that the lungs, after an ordinary inspiration, contain about 230 cubic inches of air, and that only about oneseventh to one-eighth of this amount is breathed out and taken in again at the next inspiration. Apart from the circumstance, then, that the fresh air inspired has to fill the cavities of the hinder part of the mouth, and the traches, and the bronchi, if the lungs were mere bags fixed to the ends of the bronchi, the inspired air would descend as far only as to occupy that one-fourteenth to one-sixteenth part of each bag which was nearest to the bronchi, whence it would be driven out again at the next expira-But as the bronchi branch out into a prodigious number of bronchial tubes, the inspired air can only penetrate for a certain distance along these, and can never reach the aircells at all.

Thus the residual and supplemental air taken together are, under ordinary circumstances, stationary—that is to say, the air comprehended under these names merely shifts its outer limit in the bronchial tubes, as the chest dilates and contracts, without leaving the lungs; the tidal air alone, being that which leaves the lungs and is renewed in ordinary respiration.

It is obvious, therefore, that the business of respiration is essentially transacted by the stationary air, which plays the part of middleman between the two parties—the blood and the fresh tidal air—who desire to exchange their commodities, carbonic acid for oxygen and oxygen for carbonic acid.

Now there is nothing interposed between the fresh tidal air and the stationary air; they are aëriform fluids, in complete contact and continuity, and hence the exchange between them must take place according to the ordinary laws of gaseous diffusion.

Thus, the stationary air in the air-cells gives up oxygen to the blood, and takes carbonic acid from it, though the exact mode in which the change is effected is not thoroughly understood. By this process it becomes loaded with carbonic acid and deficient in oxygen, though to what precise extent is not known. But there must be a very much greater excess of the one, and deficiency of the other, than is exhibited by inspired air, seeing that the latter acquires its composition by diffusion in the short space of time (four to five seconds) during which it is in contact with the stationary air.

In accordance with these facts, it is found that the air expired during the first half of a

expiration contains less carbonic acid than that expired during the second half. Further, when the frequency of respiration is increased without altering-the volume of each inspiration, though the percentage of carbonic acid in each inspiration is diminished, is not diminished in the same ratio as that in which the number of inspirations increases; and hence more carbonic acid is got rid of in a given time.

Thus, if the number of inspirations per minute is increased from fifteen to thirty, the percentage of carbonic acid evolved in the second case remains more than half of what it was in the first case, and hence the total evolution is greater.

RESPIRATORY SOUNDS.

The respiratory sounds or murmurs are audible when the ear is applied to any part of the chest which covers one or other of the lungs. They accompany inspiration and expiration, and very much resemble the sounds produced by breathing through the mouth, when the lips are so applied together as to leave a small interval. Over the bronchi the sounds are louder than over the general surface. It would appear that these sounds are produced by the motion of the air along the air-passages.

FORCE TO DISTEND THE LUNGS.

In consequence of the elasticity of the lungs, a certain force must be expended in distending them, and this force is found experimentally to become greater and greater the more the lung is distended; just as, in stretching a piece of india rubber, more force is required to stretch it a good deal than is needed to stretch it only a little. Hence, when inspiration takes place, and the lungs are distended with air, the heart and the great vessels in the chest are subjected to a less pressure than are the blood-vessels of the rest of the body.

For the pressure of air contained in the lungs is exactly the same as that exerted by the atmosphere upon the surface of the body; that is to say, fifteen pounds on the square inch. But a certain amount of this pressure exerted by the air in the lungs is counterbalanced by the elasticity of the distended lungs. Say that in a given condition of inspiration a pound pressure on the square inch is needed to overcome this elasticity, then there will be only fourteen pounds pressure on every square inch of the heart and great vessels. And hence the pressure on the blood in these vessels will be one pound per square inch less than that on the veins and arteries of the rest of the body. If

there were no aortic or pulmonary valves, and if the compositions of the vessels and the pressure upon the blood in them were everywhere the same, the result of this excess of pressure on the surface would be to drive all the blood from the arteries and veins of the rest of the body into the heart and great vessels contained in the thorax. And thus the diminution of the pressure upon the thoracic blood cavities produced by inspiration, would, practically, suck the blood from all parts of the body toward the thorax. But the suction thus exerted, while it hastens the flow of blood to the heart in the veins, would equally oppose the flow from the heart to the arteries, and the two effects would balance one another.

As a matter of fact, however, we know-

- 1. That the blood in the great arteries is constantly under a very considerable pressure, exerted by their elastic walls; while that of the veins is under little or no pressure, the walls of the veins having but little elasticity.
- 2. That the walls of the arteries are strong and recisting, while those of the veins are weak and flabby.
- 3. That the veins have valves opening toward the heart; and that, during the diastole, there is no resistance of any moment to the free passage of blood into the heart; while, on the other hand, the cavity of the arteries is shut off from that of the ventricle during the diastole, by the closure of the semilunar valves.

Hence it follows that equal pressures applied to the surface of the veins and to that of the arteries must produce very different effects. In the veins the pressure is something which did not exist before; and, partly from the presence of valves, partly from the absence of resistance in the heart, partly from the presence of resistance in the capillaries, it all tends to accelerate the flow of blood toward the heart. In the arteries, on the other hand, the pressure is only a fractional addition to that which existed before; so that during the systole, it only makes a comparatively small addition to the resistance which has to be overcome by the ventricle; and during the diastole, it superadds itself to the elasticity of the arterial walls in driving the blood onward toward the capillaries, inasmuch as all progress in the opposite direction is stopped by the semilunar valves.

It is, therefore, clear that the inspiratory movement, on the whole, helps the heart, inasmuch as its general result is to drive the blood the way that the heart propels it.

Hitherto, I have supposed the air-passages to be freely open during the inspiratory and expiratory movements. But if the lungs being distended, the mouth and nose are closed, and a strong expiratory effort is then made, the heart's action may be stopped altogether.* And the same result occurs, if the lungs being partially emptied, and the nose and mouth closed, a strong inspiratory effort is made. In the latter case the excessive distension of the right side of the heart, in consequence of the flow of blood into it, may be the cause of the arrest of the heart's action; but in the former, the reason of the stoppage is not very clear.

RESPIRATORY ACTIVITY.

The activity of the respiratory process is greatly modified by the circumstances in which the body is placed. Thus, cold greatly increases the quantity of air which is breathed, the quantity of oxygen absorbed, and of carbonic acid expelled; exercise and the taking of food have a corresponding effect.

In proportion to the weight of the body, the activity of the respiratory process is far greatest in children, and diminishes gradually with age.

The excretion of carbonic acid is greatest during the day, and gradually sinks at night, attaining its minimum about midnight, or a little after.

The quantity of oxygen which disappears in proportion to the carbonic acid given out, is greatest in carnivorous, least in herbivorous animals—greater in a man living on a flesh diet, than when the same man is feeding on vegetable matters.

CARBONIC ACID POISONING.

When a man is strangled, drowned, or choked, or is, in any other way, prevented from inspiring or expiring sufficiently pure atmospheric air, what is called asphyxia comes on. He grows "black in the face;" the veins become turgid; insensibility, not unfrequently accompanied by convulsive movements, sets in, and he is dead in a flow minutes.

But, in this asphyxiating process, two deadly influences of a distinct nature are cooperating; one is the deprivation of oxygen, the other is the excessive accumulation of carbonic acid in the blood. Oxygen starvation and carbonic acid poisoning, each of which may be fatal in itself, are at work together.

The effects of oxygen starvation may be studied separately, by placing a small animal under the receiver of an air-pump and exhaust-

^{*} There is danger in attempting this experiment.

ing the air; or by replacing the air by a stream of hydrogen or nitrogen gas. In these cases no accumulation of carbonic acid is permitted, but, on the other hand, the supply of oxygen soon becomes insufficient, and the animal quickly dies. And if the experiment be made in another way, by placing a small mammal or bird, in air from which the carbonic acid is removed as soon as it is formed, the animal will nevertheless die as soon as the amount of oxygen is reduced to ten per cent. or thereabout.

The directly poisonous effect of carbonic acid on the other hand, has been very much exaggerated. A very large quantity of pure carbonic acid (ten to fifteen or twenty per cent.) may be contained in air, without producing any very serious immediate effect, if the quantity of oxygen be simultaneously increased. And it is possible that what appear to be the directly poisonous effects of carbonic acid may really arise from its taking up the room that ought to be occupied by oxygen. If this be the case carbonic acid is a negative rather than a positive poison.

Whichever may be the more potent agency, the effect of the two, as combined in asphyxia, is to produce an obstruction, firstly, in the pulmonary circulation, and, secondly, in the veins of the body generally. The lungs and the right side of the heart, consequently, become gorged with blood, while the arteries and left side of the heart gradually empty themselves of the small supply of dark and unaërated blood which they receive. The heart becomes paralyzed, partly by reason of the distension of its right side, partly from being supplied with venous blood; and all the organs of the body gradually cease to act.

Sulphuretted hydrogen, so well known by its offensive smell, has long had the repute of being a positive poison. But its evil effects appear to arise chiefly, if not wholly, from the circumstance that its hydrogen combines with the oxygen carried by the blood corpusoles, and thus give rise, indirectly, to a form of oxygen starvation.

Carbonic oxide gas has a much more serious effect, as it turns out the oxygen from the blood corpuscles, and forms a combination of its own with the hæmoglobin. The compound thus formed is gradually decomposed by fresh oxygen; but, if any large proportion of the blood corpuscles be thus rendered useless, the animal dies before his restoration can be effected.

Badly made common gas sometimes contains twenty to thirty per cent. of carbonic oxide; and, under these circumstances, a leakage of the pipes in a house may be extremely perilous to life.

It is not necessary, however, absolutely to strangle or drown a man in order to asphyxiate him. As, other things being alike, the rapidity of diffusion between two gaseous mixtures depends on the difference of the proportions in which their constituents are mixed, it follows that the more nearly the composition of the tidal air approaches that of the stationary air. the slower will be the diffusion of carbonic acid outward and of oxygen inward, and the more charged with carbonic acid and defective oxygen will the air in the air-cells become. And, on increasing the proportion of carbonic acid in the tidal air, a point will at length be reached when the change effected in the stationary air is too slight to enable it to relieve the pulmonary blood of its carbonic acid, and to supply it with oxygen to the extent required for its arterialization. In this case the blood which passes into the aorta, and is thence distributed to the heart and the body generally, being venous, all the symptoms of insensibility, loss of muscular power and the like, which have been enumerated above as the results of supplying the brain and muscles with venous blood will follow, and a stage of suffocation or asphyxia will super-

Asphyxia takes place whenever the proportion of carbonic soid in tidal air reaches ten per cent. (the oxygen being diminished in like proportion). And it makes no difference whether the quantity of carbonic soid in the air breathed is increased by shutting out fresh air; or by augmenting the number of persons who are consuming the same air; or by suffering combustion, in any shape, to carry off oxygen from the air.

But the deprivation of oxygen, and the accumulation of carbonic acid cause injury, long before the asphyxiating point is reached. Uneasiness and headache arise when less than one per cent. of the oxygen of the air is replaced by other matters; while the persistent breathing of such air tends to lower all kinds of vital energy and predisposes to disease.

Hence the necessity of sufficient air and of ventilation for every human being. To be supplied with respiratory air in a fair state of purity, every man ought to have at least 800 cubic feet of space* to himself, and that space ought to be freely accessible, by direct or indirect channels, to the atmosphere.

^{*}A cubical room nine feet high, wide, and long, contains only 729 cubic feet of air.

EDITORIAL DEPARTMENT.



NEW YORK, MAY, 1870.

WATER.

"To the days of the aged it addeth length; To the might of the strong it addeth strength; It freshens the heart, it brightens the sight; 'Tis like quaffing a goblet of morning light.'

For The Publishers do not hold themselves as indorsing every article which may appear in The Herald.

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TOPICS OF THE MONTH.

. BY M. L. HOLBROOK, M. D., EDITOR.

THE PROPAGATION OF RASCALITY.—Aristotle, discoursing of the hereditary nature of any moral taint, told of a man who was arraigned for the crime of beating his father, and who made this reply to the indictment: "My father beat his father, and he also [pointing to his own child] will beat me when he becomes a man; for it was always in our family." This old Greek merely said elegantly what in our time has been uttered bluntly by a Connecticut Yankee who related it as a peculiarity of the stock to which he belonged, that "the sons usually took after their father, took after them with a stick!"

But these sentences, whether they make us

smile or look grave, really conduct us to the verge of a subject at once mysterious and awful. Is it, indeed, true that what the law calls crime is something transmissible from parent to child, and so on for ever? Can it be, that as in one family there is a hooked nose, in another an obliquity of vision, in another a predisposition to red hair, so in still another there is a twist in the soul impelling to theft or murder or incest?

We have just described this subject as an awful one. And is it not so? For, if the foregoing questions may be answered in the affirmative, what becomes of moral or legal responsibility? where is there any standing room for ethics? what justification is there for penal law and penal execution? If a man inherits his disposition to kill or to steal, just as he does his red hair, or his cross eyes, or his hooked nose, why is he to be punished for the one more th the other?

That people do inherit physical peculiarities from their progenitors is a fact of universal ob-We all recognize among our acservation. quaintances family types of shape and gait and expression. The manifestations of this law areoften very curious. The child who never saw his father will walk and gesticulate and shrughis shoulders just like his father. Then, too, a corporeal idiosyncrasy will sometimes drop out in one generation and reappear in the next orthe next. Pliny tells of the family of Lepidus in Rome, in which were three persons, not successively, but at intervals, born with one and the same eye covered by a web. Illustrations of the same kind are within the observation of every one. All will agree that physical peculiarities are hereditary.

However reluctant we may be to do so, we must face the terrible theory that possibly, nay probably, nay certainly, moral peculiarities are hereditary likewise. No matter what it throws

or overthrows, the truth must come out. Hiding our heads in the sand, that we may not see the painful truth, is only an ostrich-way of avoiding a peril or a pang.

We have been drawn into these reflections by the perusal of a deeply interesting essay lately promulgated by Dr. Bruce Thomson of Edinburgh, who, for many years, as prison-surgeon, has had daily and intimate acquaintance with large numbers of criminals of both sexes. His professional duties, as well as the philosophical habit of his mind, have led him to observe closely, and to meditate upon the characteristics of these sad creatures; and he has evidently been driven to the conclusion that, in most cases, crime is a disease, not more to be punished than consumption or small-pox is to be punished, but to be dealt with by the physician rather than by the executioner and the prison official.

Without pledging ourselves to his conclusions in advance, let us calmly look at some of his facts.

In the first place, there are many noted historical samples of some special taint of wickedness clinging to certain families from generation to generation. Such examples are the Borgins, the Farnese, the Viscountes, and the Royal Stuarts of England and Scotland.

But, in the second place, while the special ibent toward crime is seen in celebrated families dike these, and in other families of the higher ranks of life, there is in every civilized country a distinctly criminal class, and this class herds tegether at the base of the social pyramid.

Sometimes the members of this class live in country districts; and then the individuals who compose it are more widely separated. Even then, however, the law of elective affinities helds; and the tendency is for these birds of a dark feather to flock tegether, to intermarry, or to breed children without intermarriage, and to intensify each other's evil tendencies by all the innumerable stimuli of fellowship and example.

But the favorite abodes of the criminal class are the great cities. They push their way thither for a thousand reasons of advantage and pleasure. And in the great cities they have a locals and a community of their own. They are never found pursuing any honorable calling. They do not mingle in markets and engage in commerce with civilized business men. "The greatest number are thieves—Ishmaelites, whose hand is against every civilized man. There is always a thieves' quarter, a devil's den, for these city Arabs; and in the foul air and filthy lanes of their Alsatia, they associate together, and propagate a criminal population." These communities have no regard for marriage or for consanguinity; and nothing can be more obvious than that the children of their depraved lusts shall inherit a disposition to whatever is low and wicked. These children are born into crime, as well as reared, nurtured, and instructed in it; habit becomes a new force-a second nature superinduced upon their original moral depravity.

The evidence thus given of a distinctive criminal class is confirmed by the marked physiological type which they all have in common, and which is so striking that prison officials and detective officers, can pick them out of any promiscuous assemblage in church or market. They all have a set of coarse, angular, clumsy. stupid features, and dirty complexions. The women are all ugly in form; face, and action. without beauty of color, or grace, or regularity of features; and they all have a sinister and repulsive mien. From such physical characteristics we naturally expect low mental and moral characteristics; and we are never disappointed. Physical degeneration goes on with intellectual depravity.

This array of facts is made complete by the additional statement that the family histories of the criminal class indicate that crime in them is hereditary. From what has gone before, we should infer this. But we are all cowards in logic, and dare not eye our own conclusions. Having been forced to the construction of a theory, we are yet timid about its reception until we see it bolstered up by actual facts. If, however, crime is a hereditary thing, such a man as Dr. Bruce Thomson ought to be able

to show it by real examples. Hear, then, what he says:

"The analogy of what happens by training among the lower animals proves that class habits must necessarily be transmitted to the different classes of society. I do not think that the transmission of thieving and other criminal habits forms any exception to other analogies. One of the most remarkable examples of criminal family I know of was that of three brothers who had families amounting to fifteen members in all. Of these, fourteen were utterers of base coin; the fifteenth appeared to be exceptional, but at length was detected in setting fire to his house after insuring it for four times its value. In the prison under my medical charge, one hundred prisoners are known to be from fifty families. Of one alone are eight prisoners; often two or three at a time from a single family."

Dr. Thomson then unfolds at considerable length, another side of the evidence. He shows that the hereditary tendency to crime appears from the resemblance in its transmission to other hereditary maladies. Moreover all these proofs are strengthened by the incurable character of crime, This, Dr. Thomson thinks, is the great corollary from the whole study-that crime is intractable in the highest degree. 1855 and 1866, 904 female prisoners, sentenced to transportation or penal servitude, were confined in the general prison of Scotland; and of these 440 were afterward re-convicted and re-admitted to the prison. The conclusions to which Dr. Thomson has come are of the most solemn and revolutionary character: "(1.) That crime being hereditary in the criminal class, measures are called for to break up the caste and community of the class; (2.) That transportation and long sentences of habitual criminals are called for in order to lessen the criminal offenders; (3.) that old offenders can scarcely be reclaimed, and that juveniles brought under very early training are more hopeful, but even these are apt to relapse into their hereditary tendency; and (4.) that crime is so nearly allied to insanity as to be chiefly a psychological study."

Perhaps we are on the edge of infinite changes in our ideas of law, of crime, and of punishment. If Dr. Thomson's views are correct, actual crime must be dealt with curatively and not punitively, the thief and the murderer must be called an invalid, our jails must be transformed into medical establishments, and penitentiaries must be called hospitals, asylums, and infirmaries.

THE WEAKER SEX.—Archbishop Trench has written a couple of books to illustrate the theory that words are fossil poetry. Many words, doubtless, are so; while many others are simply fossil prejudice. We point to the words which make the title of this article as examples of the latter.

It is not our purpose to assert that woman's organization is as firm and powerful as man's; or that the phrase, "the weaker sex," has no justification of truth in it. But the most pernicious lies are those which are more than half true. This innocent-looking phrase wraps up a whole volume of false thinking and erroneous action. It can be drawn out like a telescope; and every new length in it is a new lie and a new discouragement.

We call ourselves Christians, but we are idolators. The idol whom we worship is Power. We have never yet been redeemed from the paganism of preferring Might to Right. To accuse a whole sex of weakness, is an unconscious way of justifying every social and legal wrong done to that sex. The phrase itself thus becomes the shibboleth of the self-styled philosophy of masculine dominion in the world.

This phrase, too, is cruel in its insinuations. It implies a doom of weakness imposed upon woman by nature; whereas, this doom, so far as it exists, has been imposed by society. She is weak, just as the plant growing in the dark cellar is puny and pale. Bear her from the sullen darkness of her ten-thousand restrictions into the open sunlight and breezy freedom of those universal opportunities which men enjoy, and you will see her nature revive and exhibit a healthful and elastic power, such as the Creator evidently intended her to have.

The phrase is cruel for its discouragements. It poisons the soul of woman with the thought of inherent and helpless incapacity. She who is made to dwell upon the consideration of her weakness, will become the bond-slave and the absolute victim of that weakness. Women need not, will not unsex themselves by spurning this pusillanimous insult upon their sex; and by trying to be strong with the fitting strength of which the ample possibilities are within them.

And is it true that woman needs to be so weak as artificial life often presents her to us? On the contrary, take the world over, the largest amount of the rough hard work now done on the planet is done by "the weaker sex." Moreover, even in this happy land, where the chivalry of the strong sex is shown in making the weak sex weaker, we do occasionally see a noble-minded, self-reliant woman, striking out an independent path for herself, and vindicating the claim of all whom she represents to all the honerable chances of human life. The other day we read in a noted journal of a couple of New York sewing-women who, a few years since, broke away from the thraldom of the needle, went into the country, and hired a piece of ground, and became successful farmers. Today comes a bright picture of feminine strength and moral enterprise in Minnesota, concerning a brave woman in Maine Prairie, of that State. The husband of this noble woman had expended his means in buying a wild farm, and was then prostrated by sickness; but she, instead of wringing her hands and sitting down in the helplessness appropriate to a member of "the weaker sex," went to her work. She cut the brush from eight acres, dug out the grubs, broke and fenced it; put in two acres of corn and potatoes, and hoed and harvested them, as also one hundred bushels of turnips, and one hundred and sixty bushels of wheat. She also during the summer, dug a cellar for the house, and last, but by no means least, did her housework in a neat manner.

There I such a woman as that is worth more to the cause of woman's emancipation from the disparaging prejudices of society, than a whole campaign of woman's rights conventions.

And if we may presume to offer a word of advice to the "weaker sex," it would be this: The country is ready to let you have your rights just so fast as you can take them. The true way to convince mankind that you have strength enough to qualify you for the privileges of buman beings, is to get up and show the strength. Less assertion, ladies, and more ocular demonstration! Fewer words and more deeds! Stop not to complain, but act! You are sure you are right—go ahead!

Homes versus Pig-Pans .-- Among the ten thousand wise, practical sayings with which Henry Ward Beecher has enriched the minds and lives of this generation, we notice the following, recently set afloat: "A house whose atmosphere is fresh, sweet, and pure, invariably suggests to us cheerfulness and virtue. A dwelling whose air is close, full of ill-defined and half-fetid odors, suggests any thing but complimentary truth respecting the inmates." He would be a very cruel public teacher who should satirize and sneer at people who failed to live in houses of tasteful architecture, furnished with faultless taste, and adorned with pictures and statues and gems of art: for these things, however beautiful and desirable, are possible only to the rich. But while only the few can have gorgeous and stately houses, all who have houses at all, can have clean ones. God has not given to rich folks any monopoly in regard to the articles of pure air and pure water. These elements are the free gifts of the Maker to us all; and no person is too poor to take and use what costs him nothing. Good triend, you may not, perhaps, be able to have a Brussels carpet on your floor; but you can have soap and water on it, occasionally! You may not have in your mansion windows of stained glass; but you can throw open several times a day such windows as you have! On the whole, however, we think the sin of foul air is quite as often committed in rich houses, as in poor ones. Horace Mann was fond of quoting Whitefield's

dictum: "Cleanliness is next to godliness." We think this would be an excellent motto for many householders to write, in bold letters, in old Hebrew fashion, on their lintels and door-posts. What surer mark of vulgarity is there than the salutation of composite and venerable stenches with which one is often received as he enters the front doors of many houses! It is a poor atonement to offer us, after we get in, a sumptuous plush-covered sofa. Better is a three-legged stool with pure air, than the softest and most magnificent ottoman enveloped in an atmosphere of noisome smells.

LOST CHILDREN.—One of the saddest and most humiliating sights which a chaste woman can witness, is that of one of her sex bedizened with the tawdry finery of the wanton, and walking the pave in pursuit of her unhallowed gains. Lost children are they—lost to all that is true, and pure, and soul saving. They sink themselves into the mire of pollution, and drag down our husbands, our brothers, and our sons into the same sphere of degradation. Is there no remedy?

Assuredly there is. Train the girl to a womanly independence. Train the girl to work. Train her to feel that she has no right to rank among the unproductive classes. Train her to feel that it is selfish, cruel, wicked, to live on the toil of the other sex. Train her to a knowledge that men are driven to crime-to forgery, to robbery and theft, by the heartless extravagance of women. Train her with a will and power to stand alone in the world. If she yield her affections, let her do it in queenly wise, knowing her own value, feeling the sanctity of a human heart, the sacredness of human trust.

Washington Irving has said that "woman's whole world is in the affections." Never did a really fine mind ever utter a more imbecile and unworthy platitude. Her world is no more circumscribed by the affections than that of the other sex. Indeed, we doubt if it is so much so. The modern woman, if not sunk in vanity has her ambitions, her greed of gain, her vile

passions of revenge, hatred, and malignity quite equal to men. The tender, dependent, sentimental woman is nearly obsolete, or is found at length among the lost children of the street.

Is the chaste woman, chaste it may be because hemmed in by conventionalism, guiltless of the loss of these miserable sisters? Is she who flaunts her jewelry and silks in the church and in the street creating an atmosphere of luxury and extravagance, stimulating the vanity of her sex, encouraging idleness, exciting a contempt for sober industry, guiltless of the misery and degradation of these lost children of the sex?

We think not. We need a reform more thorough and vital than any that has yet been organized, for the cure of the many ills that flesh is heir to. Woman must take the initiative. She must save the lost ones by an example of simplicity, industry, and womanly endeavor. Much is gained, when women receive equal pay for an equal amount of equally good work as the other sex, but the root of the matter is lower down, where women will spurn dependence, where she will be proud of her work, where she will uphold her half of humanity in all that is good. Then the costly robe earned by shame will fill her soul with loathing and abhorrence, and she will sooner starve than eat the unhallowed bread of crime.

Wright of the Brain.—Dr. Davis has lately been measuring the skulls of 762 persons of different races to ascertain the weight of the brain, which he estimates as follows: 21 English men, 50.28 ounces; 13 English women, 43.13 ounces; Scotch brains are a trifle heavier; and French brains weighed 45.17 ounces. The brains of the Italians, Laplanders, and Swedes were about the same as the English. Of the brains of 35 male and 31 female Hindoos, the weight was 42.11 ounces each. The Asiatic brain is about 8 ounces less than the English; and the African, 3.25 ounces less. Australian brains were 41.81 ounces each. This latter race seems to have brains one-ninth less than Europeans.

FACTS versus FICTION.—One of our able cotemporaries has some few words on this subject, which seems to us not quite in the wholesome, generous vein of enlarged journalism. When he says "we shall hold firmly to fact, and let alone severely fiction," we heartily say amen to the position as embracing much that is called fiction now current in our periodicals; but we contend that this is but the abuse of a good thing; and that publishers are bound to confine the fiction which they give to their readers, within the boundary lines of what is of good moral import.

To reject a well-connected fiction, because it is fiction, when it may be delineating life as we find it, or mental phenomena, mysterious and awful, which are true facts in human experience, as in the story now passing through our columns, seems to us like straining at a guat and swallowing a camel in the broad thoroughfare of truth.

Jesus, the great expounder of truth, constantly illustrated by fiction, and his parables are models of simple, beautiful romance culled from the facts of common observation. The earliest literature of a people comes in the story form, and children, young and old, turn from the dusty highway of fact, to revel awhile with the sorrows and trials of a Cinderella, the hundred and one nights of the unhappy Arabian Princess, whose devotion to her kind was equal to that of Queen Esther; Boccacoio, Cervantes, Fielding, down to the inimitable Scott and Cooper, Dickens and Hawthorne, to say nothing of the host of other distinguished authors, who have done as much, if not more, to evolve just moral ideas, as all our preachers in the pulpit, are illustrations in kind.

We repeat it, we must have fiction; we believe in it; but it must not be evolved *outside* of the realms of truth—it must go hand in hand with it; it must elucidate the true; it must not only

" Point to Heaven, but lead the way."

It must not deal in mere incident, but must give us the secret springs of action—the motives that underlie human deeds, the soul hidden, like the kernel in the fruit. It is true that much of the fiction of the present day is bad, as we have before said in our columns, dealing as it does with the abuses of passion and sentiment, and if this kind of literature is popular to the exclusion of the more salutary, the fault lies with the publishers more than with the people. We believe that a reaction is at hand, and the sooner it comes the better.

A fiction is not the less interesting because it gives the reader something to think about, and this is peculiarly the charm with our great mystic writer, Hawthorne. Dickens gives us a loose, disjointed plot it may be, but there is Little Nell, and Domby, and Peggoty, and Betsy Trotwood, and a host of other characters about which we read, caring as little about their connection with the plot, as we do of Hamlet as associated with Horatio, in Shakspeare. It is not a mere story that people of intelligence crave, it is something to think about, something akin to life as we find it, with an aspiration beyond and above it. A good story is a sermon in a popular form. The mistake in the modern novel is that it deals exclusively in the details of crime, and thus has become an educator not merely of vice, but of crime also.

Insanity in England .- There were, on January 1, 1869, 53,177 insane persons in England and Wales, and 46,896 of these were paupers. This is 16,415 more than it was ten years previous to that time. In other words there has been an increase of 45 per cent. of this disease, and only 11 per cent. increase in population. In 1859, there was one insane person in 516 persons, while in ten years after, there was one in 411 of the population. At this rate of increase, how long will it be before the majority of the people will become insane? Most of these unfortunate persons, it will be seen, are paupers, which is almost equivalent to saying that insanity and pauperism go together. It might be easy to trace pauperism to its legitimate source, alcoholic drinks, when the statement would read thus: alcoholic drinks produce pauperism; pauperism produces insanity;

insanity curses its victims with a painful, useless life, and costs the nation a great deal to support those who ought to support themselves. The remedy, of course, is temperance, and it is quite as applicable and necessary in this country as in England. It is a disgrace to any civilized nation to allow the number of paupers, insane, and criminals, to go on augmenting without vigorous efforts to discover the cause, and apply a remedy that shall remove the evil.

HAVE WE A PRINCESS AMONG Us?-By the way, what sort of a thing is a Princess? If we turn to our friends, the dictionarymakers, those surly watch-dogs of words, they will tell us that a princess is a female sovereign, or that she is a lady of royal rank, next to a queen, or something else of a similar import. Well, but these definitions are all obsolete, or alien in America; they all refer to social conditions which have no place among us. Is it impossible, then, for us to have so fair and auspicious a being in this land as a princess? Surely, it is impossible, unless we invent a revised definition of the word-say, an American definition. Let us invent one, then! Let us inaugurate a new order of royal ladies in this golden time of expanding thought and of ever-widening freedom! What shall it be? We read in a letter from Paris that the Princess Metternich has become a midnight missionary in that gay and voluptuous city; and that by her sweet pity and right-royal interposition, fifty fallen women have been already reclaimed from the most sorrowful of guilty lives. There is a model for the new line of princesses in the world licans though we are, we vote for that sort of royalty here. Give us Yankee princesses, whose titles to our homage are based on angelic deeds, whose brows are gleaming, not with such vulgar and hackneyed things as diamonds, but with mercy for those to whom society shows no mercy, and with forgiveness for the unforgiven. Let the new age usher in the new lineage of lady-sovereigns, who will illustrate to us the nobler queenliness of active exertion for the stained and forlorn sisters whom masculine brutality has first betrayed and then flung away. It is often said bitterly of good women, that they are the most harsh and unrelenting in their thoughts concerning women who are bad. We doubt this. But, at any rate, when the new princesses commence to reign, it will not be so. Who can lift up the fallen woman? Man has mused over the problem, and has done nothing! Perhaps, now, it is to be seen that the true saviors of woman are women!

THE IRREGULARITIES OF THE TEETH .-The period of second dentition usually occurs when the child is from five to eight years of age. It is not always possible to decide during the process of this dentition whether there will be irregularities or not. In most cases, what appears deformed at first, disappears when all the teeth appear. Still, it is important that parents keep a careful watch of their children's mouths during second dentition, and consult the dental surgeon before the parts have become hardened. A misplaced tooth can much more easily be drawn into position in a child than in an adult. A beautiful set of teeth are a great ornament, as well as of great value, and we can not too assiduously care for them during the growing age. Sound teeth at the age of twenty will usually last during a long life-time, if properly cared for; but if unsound, there is no end to the pain they occasion one, and hardly any end to the expense of constantly patching them up with filling. "A stitch in time" may save more than nine.

Cottage Hospitals.—The medical men of England are discussing with a good deal of warmth the question of cottage hospitals against those now in use. Large hospitals, it is claimed become insalubrious in a few years, while small ones do not. May it not, however, be caused by want of absolute cleanliness in the large hospitals that causes their insalubrity? More attention to ventilation, and the use of disinfectants, more hygiene and less drugging, would make all our hospitals very different from what they are.

How to Treat the Sick.

THE CURABILITY OF DRUNKENNESS.-Inebriates constitute a peculiar element in society. They are not criminals, and are not, therefore, amenable to legal punishment. They are not insane, and hence do not need confinement. They realize, however, for themselves, and the community is beginning to realize for them, that remedial appliances of some kind are needed for the purpose of enabling them to recover from the offensive peculiarity which distinguishes them from other men. They may possess intellectual or moral obliquities, or be deranged by positive disease, or by physical organizations for which they are not wholly responsible, and which a wiser philosophy than now obtains will some day trace to their prenatal history.

CLASSES OF INEBBIATES.

For the purpose of treatment they should be divided into distinct classes. It is not to be denied that a considerable number (say twenty per cent.) are irreclaimable, and these may be denominated confirmed drunkards. Such are, either by reason of moral infirmity or structural disease (while exposed to temptation, at least), beyond the reach of entire recovery. The body is broken, and its vital force enervated. The will can no longer even assert itself intelligently, much less perform its functions. To protect such unfortunates and their families from injury, and their property from damage, the law should be employed, as it is in cases of other dependent persons. They might, with propriety, occupy an infirmary or hospital department in an institution designed for incurable inebriates,

The next class to be noticed are habitual drunkards, in whom the habit is not confirmed by supervening disease, but who drink daily or repeatedly, attend in some sort to business, and are frequently, by nightfall or later, narcotized. They sleep away the dark hours, and awake again with the morning to thirst and drink, to thirst again, and continue drinking. Such men, while they are able to attend to their affairs, do not often appreciate their real condition. It is difficult to convince them of their danger; and yet, when they once realize it, and submit to proper treatment, they are hopeful cases, yielding readily to remedial measures. Habitual drunkards generally fall into the habit almost unconsciously. Social influences, or perhaps business reasons induce it. At first they have no fondness or longings for stimulants; the desire for them being created by creating the conditions which demand their use. The habit can be broken, however, and the counter habit of abstinence established, while the moral nature can be trained to take new views of life; and when it comes to realize that drinking is neither essential to the enjoyment of society nor to success in business, it is not difficult for such men. after the system has been renovated, to confront the world again and be successful.

The next class to be named are periodical inebriates, in whom there is, in my opinion, frequently, if not universally, an inherent diathesis, which renders its possessors peculiarly susceptible to causes of excitement. It is difficult to define the condition to which I refer; but I know that in such persons disappointments and successes, afflictions and enjoyments, or indeed any thing that is unusual in kind or degree, disturbs for the time being the moral balance, and the consequent unrest, either in the form of enervation or exhilaration, as the case may be, inclines them to seek

a satisfying remedy. Some men drink alcoholic liquors, and others resort to opium, or similar narcotics; while such as have moral or religious convictions that are equal to the emergency, may seek repose and meditation, or congenial recreation, until the period shall have passed.

This is a most interesting and numerous class of persons. They are led by an uncortrollable impulse into excess, and suffer the keenest remorse and anguish of spirit when it is over. They should have a place of refuge to which they can go when they feel the necessity for it; and where they can remain under proper guidance till the "spell" (as they call it) is passed. Better still would it be if such men could remain in an institution long enough for their peculiar diathesis to be corrected or substituted. They would then be able successfully to meet the duties of life without the necessity of resorting frequently to a place of refuge for temporary relief. Having glanced thus briefly at the classes to be treated, and their several general conditions, the mode of treatment within the walls of an institution may be noticed,

DRINKING MEN AND THEIR RIGHTS.

No class of men are more jealous of their rights than drinking men; none value more highly their independence, and none resist more persistently any effort to control their judgment or impair their liberty. Admitting this position to be assumed by inebriates themselves, and admitting that the law does not presume to reach the first causes of intemperance, which reside in the individual, we find that our true method of approach to the inebriate is through his own sense of necessity as a diseased person. If his nervous system is primarily at fault, or his moral nature enfeebled, either by transmission or association, or if there is some local disorder for the relief of which he uses stimulants; in either case he is anxious for relief, provided he can obtain

it without costing him his self-respect or personal comfort. Thus, from the very nature of the subject, as we view it in its social and physiological aspects, there are certain prerequisites which at once suggest themselves, as important in a well-organized home for the cure of such persons.

The fact that an inebriate surrenders himself voluntarily to the custody and care of an institution, is an admission on his part that he needs protection and guidance; and the fact that the institution receives him under such circumstances, implies a contract between them: that he, for his part, requires certain aids, which the institution, for its part, agrees to furnish, and it is due to both that the terms of the contract should be clearly understood.

SELF-GOVERNMENT.

As the great thing to be learned by inebriates is self-government, their association in an institution for mutual profit affords a good opportunity for trial in this direction.

On the part of the institution, it might be well to present each inmate, after his arrival, with a printed card containing the house regulations as to hours for meals, sleep, baths, etc., and a few brief sanitary instructions, with the signature of the physician attached. In return, the patient should subscribe to a code of ethics, upon which all should agree as a basis for their intercourse among each other and the officers. This code should embrace the following conditions:

CODE OF LAWS.

- A recognition on the part of the signers of the necessity for placing themselves under treatment.
- 2. An acknowledgment of the fact that in order to promote the general good and comfort of all, they will cultivate a spirit of good will and accommodation toward each other and the officers, that there may be complete co-ordination of purpose and effort among all members of the household.

Thus there would be a somewhat formal and yet simple and reasonable exchange of conditions, which all could readily understand.

In view of the difficulty of accommodating several hundred inmates of incongruous social and intellectual conditions under the same roof, without some bond that can be mutually respected, or some mode of classification that will be appropriate and inoffensive, it is suggested that separate buildings, or separate compartments or sections in one large building be provided for distinct groups or families of patients; no single group to exceed twenty in number. Let each have it so wn appointments for lodging and amusement, and a corresponding section of a common restaurant.

Another provision should be made, which, in my experience, has been found to be desirable, namely, the arrangement of suites of rooms for families. A husband may desire to accompany his wife, or a wife her husband; in which event they should be provided with private apartments. There are many such cases.

Groups or families, though located thus for social reasons, would, of course, meet together for divine worship and at public entertainments, as is the custom in the outside world. Such an arrangement would also admit of interchange among the several groups of those social amenities which are the expression of refinement and pleasure in general society. As far as may be, an officer of the house, or faithful employee should domicile with each group. An infirmary should be located in or adjacent to the building, in which patients may be placed on arrival, as already indicated, and which might be used for special hospital purposes in the event of an epidemic or other calamity.

OCCUPATION AND RECREATION.

For the purpose of occupation and entertainment, the inmates will naturally divide themselves into three general divisions:

- 1. Men of education, with tastes for literature, science, and art, who can always find agreeable and profitable pastime in the pursuit and application of knowledge.
- 2. Mechanics, clerks, and others of fair business experience, who have been habituated to toil, and though without general culture, have natural fondness for the beautiful in science and nature, and who are ambitious for improvement.
- 3. Idle men of means, who have little care for occupation of mind or body, except so far as they be passive recipients of pleasure or instruction from others; and a class of artisans and employees who are satisfied with inferior pursuits and attainments.

To meet these several conditions, the natural and physical sciences, the arts and mechanics are available for illustration and practical use. An announcement should be made that the institution contemplates not only physical and moral training, but the use of every means possible to beguile men into paths of sobriety and virtue, by lectures, music, readings, amusements, and studies, as well as by all the useful industries of husbandry and the mechanic arts. It should be a "university of social discipline," the grouping of its inmates being founded not on etiquette or diplomacy, but on real affinities, which would centralize upon mutual good faith as the bond of unity.

No patient, voluntarily committing himself, would fail to recognize the value of such a bond, or of the pleasing and useful occupations which it imposes; but should he fail to comply with the course prescribed, he could find his proper level in the infirmary. It is better for the institution and for the patient that such a standard should be established. Better for the institution, because it would not be annoyed by promiscuous association with incorrigible persons. Better for the patient, because he can scarcely fail to be benefited and finally recover.—Dr. Joseph Parrich.

ANSWERS TO CORRESPONDENTS.

BY A. L. WOOD, M. D.

Why we Lose our Teeth.-In civilized society a complete and perfectly sound set of natural teeth is a curiosity. If teeth continue to deteriorate as fast during the next fifty years as they have during the past, the people will then scarcely have any teeth at all except such as the dentist furnishes them to order. This decay and loss of teeth is confined to man, and mostly to the civilized races of men. Where is there an animal on the face of the globe, except some domestic animals kept by man in the most unhealthful conditions, that loses its teeth by decay? 'The Indian, the negro, and the less civilized nations and races generally have good teeth. What is the cause of this premature loss of our teeth?

Dyspeptic stomachs, saleratus bread, tobacco, drugs, uncleanliness, etc., have much to answer for as causes of decaying teeth, but the cause which I desire to call particular attention to, and which is of more importance than any other, though generally overlooked, is that the teeth are not made of suitable materials. Teeth are very largely composed of mineral substances, as phosphate of lime, carbonate of lime, silex, etc., and in order that they may be sound and perfect, food must be eaten which contains these mineral substances. As well expect to make a perfect steam boiler of sheet lead as to make perfect teeth of such food as fine-flour bread, fat meat, sugar, starchy preparations, etc., which do not contain the elements needed. If people will only substitute unbolted wheat-meal or graham flour in place of the superfine flour now so generally used, their health and strength will not only be greatly improved, but their teeth, and especially their children's teeth will be harder, stronger, and much less subject to decay.

Pimples, and How to Prevent Them.—"In Cutter's Anatomy, Physiology, and Hygiene, on page 290, he gives the following observations: 'Among the inhabitants of cities, and especially in persons who have a torpid state of the skin, the contents of the oil-tubes become too dry and dense to escape in the usual manner. Thus it collects, distends the tube, and remains until removed by art. When this impacted matter reaches the surface, dust and smoke mix with it; then it is recognized by small, round, dark spots. These are seen on the forehead, nose, and other parts of the face. When this matter is pressed out the tube gives it a cylindrical form. The parts around the distended tubes sometimes inflame. This constitutes the disease called "acne punctata."

"We notice in many persons these protruding conical shaped substances. They break the surface of the skin, and render it offensive to the sight and repulsive to beauty. You will confer a great favor upon a new subscriber by stating in THE HEBALD, how this disease can be cured, and the smooth unbroken surface of the skin, so essential to beauty, restored."

The causes are, imperfect digestion of food, over-eating, a gross and impure diet, a torpid condition of the liver, inactivity of the skin, uncleanliness, etc. To effect a cure, eat moderately of the purest and best kinds of food, improve the digestion, purify the blood, and keep the skin clean and active by frequent bathing and friction.

Colic, its Cause and Treatment.

—"What is the cause of colic, and the Hygienic mode of treatment?"

There are several different forms of colic, as colic of constipation, flatulent colic, intussusception, lead colic, constrictive colic, etc. The name of the first mentioned variety plainly indicates its cause—constipation of the bowels. Thorough and frequent kneading, percussion and manipulation of the bowels, tepid enemas, plain diet, composed largely of fruit, and plenty of active exercise will, in most cases, soon effect a cure, and in all, if perseveringly followed.

Flatulent colic is caused by wind in the bowels, which is produced by imperfectly digested food. It is readily relieved by kneading of the bowels, hot fomentations and warm water-drinking. Kneading alone is often sufficient.

n.

To effect a cure, remove the cause by toning up and strengthening the digestive organs.

Intussusception is that form in which one portion of the bowel slips into another. It is nearly always caused by constipation. The bowels should be moved and kept free by tepid enemas, frequent sips of ice-water or bits of ice should be swallowed, and cold wet cloths applied to the abdomen, followed by as thorough manipulation as the soreness will admit. If this fails to relieve the displacement, suspend the patient by the feet, head downward, and while in that position apply strong vibration or shaking to the body. This seldom fails.

Lead colic is caused by the presence of lead in the system. Painters and plumbers are most subject to it. Lead is also frequently introduced in the form of medicine, in drinking-water which has stood in lead pipes, or vessels, etc. The pain may be relieved by hot fomentations, or hot sitz baths and warm water enemas. The bowels must be kept open. Warm water should be freely drank. The diet should be of the plainest kind. If attainable, the Turkish and Electro-magnetic baths should be taken as often as the condition of the patient will allow, the object being to eliminate the lead from the system. If these can not be had, the vapor bath or the wet-sheet pack should be substituted.

Constrictive colic is the result of a partial closing of some portion of the alimentary canal, by the thickening of the mucous membrane. Abdominal kneading and manipulation, in connection with a rigidly abstemious diet, outdoor exercise, and total abstinence from all irritating substances, as salt, pepper, spices, alcoholic drinks, etc., is the only useful mode of treatment.

Another form of colic, called surfeit, is caused by over-eating, or by irritating or indigestible food. Total abstinence from food, free warm water-drinking, copious tepid water enemas, and thorough kneading of the bowels, constitute the true treatment.

Fast Eating.—This is one of the most common, as it is one of the injurious habits to which the American people are addicted. Especially is this true of business and professional men, although it pervades all classes of society to a greater or less degree. Thou-

sands of business men do not allow themselves over ten minutes for dinner and many not more than half that. They shovel food into their stomachs as a laborer would shove! dirt into a cart; when they get loaded they s'op, and the load is about as heavy in one case as in the other. It is no wonder there are so many broken-down dyspeptics. The only wonder is, how the human stomach can stand such treatment as long as it does. In order to have good digestion, the food needs to be very finely divided, so that the gastric juice of the st mach can come in close contact with all parts of it. If it is in large lumps, it takes a far longer time to digest it, as it can only dissolve from the surface, and it is apt to ferment and turn sour before digestion is completed, causing wind, acidity of the stomach, and other unpleasant effects. The food not only needs to be thoroughly masticated in the mouth, but it should be completely saturated with the saliva before entering the stomach. This can only be done by having the food retained in the mouth and well masticated. The action of the saliva upon food is an important one, turning starch into sugar, and preparing it for perfect digestion in the stomach. Slow-eating is important on another account. When food enters the stomach, it should be at the same temperature as the stomach itself. By being sufficiently masticated and mixed with the saliva this object is accomplished, and digestion is not retarded by having cold food thrust into the stomach. Dyspeptics would be greatly benefited, and many cases of dyspepsia prevented, by substituting slow for fast eating. Half an hour should be the shortest time allowed for an ordinary meal.

Cut on the Face.—"What treatment would you suggest for a cut on the face, of some three months standing? I thought it unsafe to apply the adhesive plaster; caught a cold in it, and now after three months, still shows an ugly red streak in the cut. My belief is that the cut will always remain, but the redness will disappear and the streak become white. Am I correct, and what treatment would you advise?"

You are right. Bathe the scar frequently in cold water, and rub it often with the fingers. Be out of doors as much as possible, and improve the gen th.

NOTICES OF NEW PUBLICATIONS.

VITAL RESOURCES; or, How to Become Physiologically Younger and Stronger. Being a scrutiny into the domain of the laws which Nature sometimes marvelously resorts to, and in its restorative powers. New York: Published by the Author.

Among the many interesting chapters contained in this little book are, Plurality of Personality, Hereditary Influences, Marriages of Consanguinity, Maternal Impressions, Power of Mind over Body, Transforming Power of Mind, and why Marriages of Consanguinity restrict Vital Resources. The work is full of facts of interest to all students of physiological phenomena, and will repay a careful perusal. We learn an important lesson from the chapter on Appetency, that often a change of plan and business is not the result of fickleness of mind, but an absolute necessity to the individual who has exhausted all the resources of growth and development, furnished by his occupation or location, and must have new surroundings and work to make life tolerable. Perhaps this also explains in part why children so frequently find it more to their taste not to follow the pursuits of their parents. They are already sated with the good of these pursuits, and crave what they can not find in them to develop a more harmonious nature. This fact is worthy of the study of parents who have children for whom they seek occupations.

THE TONE-MASTERS. By Eben Tourgée.

This book is the first of a musical series for young people, and presents us in an exceedingly attractive form the story of the lives of Mozart and Mendelscohn. We are glad of the promise of more of the same style and interest.

The book supplies a great want in juvenile literature. The songs and music of our great masters are familiar to us as are the proverbs and sayings of Shakspeare, and yet comparatively few of us know to whom credit is due for the pleasure they afford us.

This series proposes to present us the leading facts in the lives of the great composers, a description of their best works, the circumstances under which they were written, and analyses of their construction and peculiar excellencies. Published by Lee & Shepard, Boston. TEMPERANCE ANECDOTES, Original and Selec ed. By George W. Bungay. New York: National Temperance Society. 1870. Price \$1 00.

This little book is a collection in convenient form of a large number of short, pithy, and laughable stories and anecdotes, each of which is designed not only to afford amusement to the reader but at the same time inculcate lessons of sobriety. It will afford much merriment we are sure, and if it could be read by the topers (alas, they will not read temperance literature), we think some of them would come to their senses and drink no more.

DIALOGUES FROM DICKENS, for School and Home Amusement. Arranged by W. Eliot Fette, A. M. Published by Lee & Shepard.

The book consists of forty-five dialogues, varying in length and in the number of characters, all of which are within the ability of school children to perform, while their faithful representation will give ample opportunity for the display of dramatic talent in adults who may wish to make them a part of an evening's entertainment. Stage directions are given in the book, with a very suggestive index to characters and costumes.

A GUIDE BOOK OF FLORIDA AND THE SOUTH.
For Tourists, Invalids, and Emigrants; with a Map
of the St. John River. By Daniel G. Brinton, A.M.,
M. D. Philadelphia: Geo Maclean.

Dr. Brinton in his book, has not aimed at literary effect, but has made a neat little volume, which may profitably be consulted by those who wish to go South, and who wish before starting to know when, where, and how to go.

CAUSES OF INFANT MORTALITY. Being a Brief Account of the Origin of the Feebleness and Diseases which Afflict and Destroy so many Children at Five Years of Age. By John W. Thrailkill, M. D. St. Louis S. W. Book & Publishing Co.

This is a valuable little pamphlet of sixty pages, which every mother, present and prospective, would do well to read, and better still to heed its teachings. It deserves the highest commendation.

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Correction.—We are sorry to notice that in our general articles, the very excellent paper on Hot-Housing Brains is credited to R. R. Bowler. It should read R. R. BOWAER. Mr. Bowker is the talented Editor of the Literary Department of The Evening Meil, one of the brightest of our evening dailies.

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THE HERALD OF HEALTH

AND

JOURNAL OF PHYSICAL CULTURE.

Vol. 15, No. 6.1

NEW YORK, JUNE, 1870.

[NEW SERIES.

PUBLISHED MONTHLY BY WOOD & HOLBROOK, 13 & 15 LAIGHT STREET.

THE TWO WIVES.

BY MRS. ELIEABETH OAKES SMITH.

CHAPTER XVII.

THE PROFESSOR WANDERS AND THE TEOCALLI
—RODMAN REPRIMANDS HIM—ANCIENT WORSHIPERS—AN EXPIRING RACE.

TATE now passed around the base of the fountain, overgrown with wild figs and cacti, where it was lost in the earth through an arched stone culvert leading to the river. The arch was high, and I found there was a dry pathway along which we descended for a short distance. I Turning sharply to the right, I knew our direction must lead back to the city. We were now in total darkness, and soon the damp, heavy atmosphere so impeded my respiration that I was fain to gasp for breath. We must have proceeded a mile through this subterraneous passage, when I felt the rush of the outer air, and it was not long before the rays of light penetrated softly to our retreat, and even the tumult of the city came clear and distinct. There was the clash of cymbals, the beat of the drum, and the loud blare of the trumpet preceding some grand festival.

"'All this prepares the way for Narine to. the priestly vale,' whispered Zalinka. 'Come, hither and you will see,'

"A slit between two stones in the wall where. we stood enabled me to see with distinctness the crowds of people thronging the streets. Fair young girls crowned with flowers, their thin white robes fluttering in the air, while their silver sandals glittered in the light. Lovelychildren, undraped cupids, tossed the sling. fired their arrows, chased butterflies, and lisped. their idle songs. Haughty matrons borne on purple litters with their gorgeous robes sweeping the ground. Warriors clad in links of gold. and silver, their glittering spears like a wink of Stately priests in trailing robes and symbols of ivory and palm tree. Laborers. bent beneath burdens of fruit, and fish, and flesh. I was lost in bewilderment, and turned. to my companion.

"'Is it well to remain here, O beautiful priestess? Let us turn our back upon it all—let us forget the teocalli—forget all—but—but—'

"'No more,' said Zalinka, softly; 'I may not hear thee.'"

"I think myself you were inclined to be rather sudden," said Rodman, "considering you had eaten but little, and were not in a situation to exchange sentiments."

"That is true, Rodman; and the grave, calm face of Zalinka, who knew more of our danger than I did, was a rebuke to my impetuosity."

"That walk through the underground way was pretty pokerish; didn't you see any wild beasts nor snakes?"

"Not one; but there was something that now and then slapped against my face, and gave out a sort of screeching cry, which was not at all pleasant to feel or hear, but Zalinka told me they were only bats."

"Bats are not agreeable fellows; I've known them to nearly suck the blood out of a man. But go on."

"In my dark retreat I saw the gorgeous light of day die out, and the silence of night rested on the city, where at intervals the slow clang of drum and cymbal told that the sleepless priests wearied the hours with solemn rite or ceaseless sacrifice. The dwarf through a secret passage made her way to the external air, and returned with dry mosses on which we rested. I could not see the face of Zalinka, and when I assayed to take her hand she said, softly,

"'Nay, Teomax, be at peace; the peril is not past.'

"'Will they seek us here?

"'No, they believe we shall perish in the passage of the cross, which we have closed for ever. No power can remove the stone, which only slides from within, and now the teocalli will be deserted as a place of worship, and its chambers serve only for the dwelling of the priesthood. It matters little, for a mystery and awe will enhance the impressiveness of the place, and redound to the glory of our worship. It will be given out that we are translated.'

"'And Narina, what will be her fate?' I asked.

"Zalinka sighed and wept. 'She must perish
—I see no way by which she can be saved; but
she knows the fate that awaits her, as it has
been that of thousands before her. My mother,
beautiful and powerful, perished thus, though
my father would gladly have saved her.'

"'Then the priest is permitted to marry ?' I asked.

"'They do not marry, their families grow in the silence of the teocalli unknown to the people, and this is a part of the mystery to which

.

all their rites tend. I am called beautiful, Teomax, and when my father draped me in a robe of gossamer silver, and covered my head and arms with pearls, and led me forth upon the area of the high temple, the people prostrated themselves before the actif the very queen of Heaven had been revoaled unto them; and I gloried in my power and my beauty, though I knew how it would all end."

"Nat'ral that," interrupted Rodman. "I don't think, if I was one of the purty creature, I would ever look at us rough men-fellers, but I suppose they want love all the same, and the 'sons of God' that used to be on the earth and make love to 'em being gone, they've nothing better left'em than us men-fellers. I must say, I've a kind of pity for them, seeing how it's but a poor substitute they get."

"I went on, as Rodman became silent, though my self-love disposed me to dissent from his very moderate opinion concerning the sweatybrowed sex.

"'But, my beautiful Zalinka, you will escape that fate now; you will leave these gloomy walls and go to some far-off land, and there, under happier skies, forget all the horrors through which we have passed.'

"'There is one way by which we can be saved. Listen: The passage through which we have passed is little known, and nearly forgotten. My mother, foreseeing her own death, took me through it, accompanied by the faithful Narita, and she bade me, if sorely pressed, to seek this sanctuary and trust to the great invisible God to help me in my distress. Now listen, and mark me well. This passage, or gallery, is not known to my father, for only the oldest priests ever knew of its existence. It can be closed and lost to the memory of men. Listen: The gallery leads to an old, mosegrown temple, hoary with age, and the traditions of its worship lost and forgotten. Sometimes a faint blue light rests upon the ancient structure, and shadowy forms ascend in long processions from terrace to terrace, and each one as it reaches the eastern verge spreads his hands toward the great sea and is gone, and thus they follow for hours and hours, till the silence of death and the solitude of the grave again rest upon the crumbling mass. The people regard this deserted fane with dread and horror. It had been long since rooted from the earth, but for a tradition that when Matalcingo falls the city falls. Dare you show yourself to the people, Teomax, from the summit of Matalcingo? Dare you speak to the people from this ancient hight, and bid them stay their cruel human sacrifices, and bring no more blood upon their altars? It may save the life of Narina.'

"" Will it not rather 1 ring the priesthood upon us and certain death?"

"'Nay, I think not. But we can but perish!'

"'Is there no escape from the city? No other mode of saving thy friend?'

"'None, none. Human sacrifice must cease or she will perish, and the more sadly, that I have deprived her of the means of escape.'

"' Do as thou wilt, Zalinka; I will obey."

"At the first dawn of day we entered the subterraneous gallery on our way to the deserted temple. No sooner did the dwarf learn our intention than she gave way to the wildest expressions of delight. She clasped her small arms about my knees; she embraced the feet of the priestess again and again, uttering her joy in a language totally unintelligible to us both.

"We must have traveled perhaps half a mile in utter darkness when we entered an extensive room, dimly lighted by a long slit in the wall. In the center, beneath a circular opening in the roof, was a terra cotta brazier filled with coals, and beside it were shells and pearls and opals idly scattered around, as if they formed the playthings of a child, and there, sleeping on a couch of silvery texture, was a creature so small that it looked like a waxen doll. Seeing this the dwarf snatched it up and covered it with caresses. Soon, a being, smaller even than Narita, whose dress was little else than her own masses of black hair, rushed in with expressions of alarm, which were instantly converted to the most frantic joy upon seeing our conductor.

"We now learned that this ancient temple was still the abode of the descendants of the outworn hierarchy, who retained little of their old worship except the perpetual fire. worshiped the sun in an indistinct way through the symbolism of flame. Wearied, exhausted by the excitement through which we had passed, Zalinka wrapped her vail about her person and sank down by the brazier overcome by sleep. In the meanwhile a troop of pigmies gathered around us, as I sat shielding the form of Zalinka, wee children and solemn old men and women; diminutive lads and maidens, beautiful as the dream of a poet; middle-aged persons bearing the weight of their responsibilities, and plying Narita with a thousand questions. What was remarkable with all was the length and luxuriance of their hair, which was capable of covering the whole of their little figures.

"In the mean time the dwarf, who was no longer a dwarf among her own people, exerted

herself for our comfort, and returned to the city for such articles as were needful for the coming ceremonial. She did not need to retrace her steps by the secret passage which we had traversed, but lifting up the heavy vines and shrubs which, growing over the porus rock of which the temple was constructed, had already converted it into a vast hill or mound of verdure, she descended without observation to her accustomed haunts. It would seem that the people were not aware of this pigmy race preserving their ancient connection with the ruined temple, and when now and then one of these weird creatures, in masses of hair, sought a familiar residence among them, no one instituted an inquiry as to whence they came. Had they done so, it would have been to little purpose, for they were to the last degree violent and irritable when in the least interfered with."

"There you have it," said Rodman; "I have always noticed that little creatures are the toughest and quarrelsomest of their kind. Little birds will fly at what an eagle would hold himself aloof from. Little women will fly at your head where a big one would only give you a laugh. It's their natur, I suppose, caused by their skin being too tight for them. Go on."

"The next day Narita returned with certain articles indicated by Zalinka, which she had been able to secure without observation; among these was a certain powder, a portion of which she cast upon the flame when it broke forth in a white light, and an odor not unpleasing to the senses. She reported the priests as eager to ascertain the whereabouts of myself and Zalinka, and she inferred that they believed them in the great cross-surmounted teocalli, from whence we could easily be captured. They had not as yet learned that the secret entrance had been effectually closed against them.

"In the meanwhile Narina was that night to take her place as priestess, amid all the august ceremonials of worship. As the hour approached the clang of innumerable drums and resounding pipes, cymbals, and trumpets, told that a great religious festival was at hand. The whole city was in motion, with the noise and tumult of a great people, and the flash of innumerable torches. The city had gradually grown up around the old fane in which we were secreted, and it now stood solemn, vast, a gigantic memento of an age long since past, and a people lost and forgotten.

"By the aid of the dwarf I was habited in a long silvery white robe, gathered at the waist by a girdle of pearls. My hair, which had grown long, fell in abundant curls over my neck and shoulders, and was now profusely powdered by pearls and dust of gold, by which means it glittered like rays of light. When I was fully prepared, I came forth leaning upon a silver cross and approached Zalinka. She was overcome by the splendor of my appearance, and fell at my feet with a burst of adoration,"

"I think myself you might have been taking in your looks, George, for you're a handsome man now. I'm never confounded when a woman cottons to such fellers, but the wonder is that they should take to ugly old fellers like me."

"Why, Rodman, you have a certain something that is beauty, in spite of the way you talk. Integrity, courage, generosity, give an air to a man that no mere form of features can mpart."

Rodman blushed, the fine fellow, and his eyes opened wide with pleasure; he smilingly said in a low voice,

"I hope she saw something like that in me, for it has been a kind of trouble to me lest the poor girl was sort of glamoured and bamboozled in some way, neither true nor wholesome."

"My noble friend!" I cried, grasping his hand, "you are true to the core; and I feel that I am weak and poor in comparison."

"Go on;" he replied, dashing a tear from his eye.

"I lifted Zalinka in my arms, and for the first time pressed her to my heart. How ravishingly resplendent she looked! How tender the depths of her dark eyes! How like untold melodies the sound of her voice! Gently she withdrew from my arms, and said:

"'Go, Teomax; your own fate and mine are in your hands.'

"Ascending by difficult steps to the top of the temple, for the passages had fallen to decay and were obstructed by fungus and the debris of stone and clay, we at length reached the summit. Stooping amid the shrubs that grew upon the area above, I waited till the signal should be given by Zalinka. We could, from our eminence, overlook all the ceremonials upon the adjacent teocalli. We saw the young priestess approach the angles of the temple and spread out her hands over the assembled multitude, amid shouts and music and burning incense.

"'O levely, unhappy Narina!' exclaimed Zalinka. 'Now arise, my love, my beautiful, my descending god, and the gods be with thee!'

"As I stood at my full hight, the white powder, of which I have before spoken, enveloped

me in a cloud of mooney light, and a bolt bursting from the clouds above shook the earth from side to side, as if the ancient gods rejoiced with irrepressible joy at beholding once more the flame lighted upon their altars.

"All eyes, the eyes of the great multitude turned to the spot, and rested upon me with awe. They througed to the base of the mound, and raised their hands in tears and supplications. Lifting up the cross, and bending forward, I spoke to them. I bade them to offer no more human blood upon their altars. I threatened them with the wrath of the great invisible God, above all gods, if they offered any more such blood in sacrifice. I bade them till the earth and bring forth its fruits, and unfold fountains of beauty. I bade them consider that the gods were pleased when their worshipers were humane, just, and upright; that perfect happiness was not designed for man in this world, that all good had its shade or cross of evil here. I told them the gods would send them another messenger, when they would cease their cruelty and revenge, and that now they left their benediction with them.

"As I said this, flashes gathered around the mound, the silvery light enveloped my whole person, and I sank down overcome, by the side of Zalinka.

"In the midst of this vapor we descended to the chambers below.

"'Your father will seek us here?' I asked Zalinka.

"'No; he will believe that I have perished, or I should have appeared at your side. Crafty as he is, I believe he will accept the reality of the vision, and thus my poor friend Narina may escape her fate. Go, Narita, and learn by the common talk, what is the impression made.'"

CHAPTER XVIJI.

SHARERS-A SHARER WAGON-THE VILLAGE.

HEAVY Shaker wagon drove up one day to the door of Mr. Lyford—a four-wheeled vehicle, covered with canvas painted black, and impervious to rain. In front were seated two of the elders habited in plain, substantial gray cloth, with broad brimmed hats. They were fine, stalwart-looking men, well limbed, clear of eye, and upright in shape, with that peculiar color of a ripe, rich peachen hue upon the cheek, which only a pure temperate life and perfect health can place there. They were in the prime of life, both, and yet there was an al-

most boyish expression of innocency about them; most especially about the younger, who had an uncommon share of manly beauty, as well as a frank, half-defiant air, which he must have subordinated to the meek manners and staid use of tongue pertaining to the order, with much mortifying of the inner man.

Behind them were two of the sisters in the short-waisted gowns of brown, and the scoop bonnets prescribed by the sect. Contrary to the men, the women were thin, pale, and weasened. They were an indefinable air of suppression and constraint. One, called Sister Maria, however, had a grave, winning smile, and when she spoke her voice was rich, deep, and melodious, like that of one accustomed to its use in matters of moment and authority.

In the rear of the wagon might be seen jars of butter, nice brooms, and dusters, designed as a gift for Cora, which the older of the two elders proceeded at once to remove to the house, while the younger, known as David Parker, assisted the sisters to alight. They were met most cordially by the family, who descended the high steps under the lattice covered with roses and honeysuckles, to receive them,

It was curious to see the spinsters put their arms around the pretty Cora, and embrace her as if she were made of porcelain and must not be lightly handled. It might have been observed that Sister Electa blushed deeply as she gave her hand to David Parker, but their eyes met with a lovely candor, like those of two fair, unconscious children.

"Thee is prepared to go with us, is thee not?" he asked.

Electa assented, but Cora declared that a lunch was on the table, and "I will never touch the butter, nor sweep with the pretty brooms, auless you come in and eat some of my nice bread and pies."

The elder assented, looking at her with wideopen, childish eyes of admiration; but Cora knew their rules prohibited them from eating with the "world's people," and she left the room and busied herself in placing her gifts in their proper places, for she was doing her utmost to be a good housekeeper, and make the Professor's scanty salary go as far as possible. Mrs. Pyncham's reprovals were not without a grim utility in this way.

When Sister Electa was about to leave, Cora took her aside, and with a pretty blush and a slight lifting of the eyebrows, said:

"You will not stay long, Electa, will you?" and then taking a corner of the muslin kerchief gracing the shoulders of the fair Quakeress, she

pinched it into folds over her fingers, pulled it out smooth and pinched it up again. "Don't you know what it is I want to say?" she asked with a smile and a blush.

"I think I do, dear."

"Yes, Electa, and I'm going to be good, and all that, you know."

Electa kissed her forehead, and laid the soft cheek against her breast. Cora went on:

"George has been dreaming so much of late, Electa, and I need you to keep me happy and reasonable!"

"George is a wonderful man, Cora. Eloquent, wise, learned, with the heart of a sweet child. These dreams do not hurt him."

"I am learning to think so, Electa; but I can not get over that idea of mine that he has a dream-love."

"Cora dear, selfishness is an evil. If we truly love it seems to me that we shall love despite of sleeping-dreams and waking-dreams. Be content to-day, dear, and God will take care of the morrow."

"Come back, do, dear Electa, and help me to be wise and good, and help me to rock the cradle," and so, with an embrace and smiles, the lovely women separated.

Nothing could be more comfortable than this homely wagon of the Shakers, with its pliant springs, ample size, and harness plain but in perfect order; not a stitch wanting, not a buckle loose, not a spot discolored or worn. Then the horses, so amicable, possessed of one mind to go thoroughly through with the duty enjoined, as if the conscientiousness of the order had been absorbed by animate and inanimate objects. Up hill and down dale went the willing creatures, and there is a great deal of that to be done in the roads of Maine, now shouldering their broad sides up a steep hill, and hardly were they well bent to their task, than David Parker sprang lightly out, having tossed the reins to his companion, thus relieving the creatures of something more than a hundred and fifty rounds, though there was not an ounce of superfluous fiber about his handsome compact form. It was a good sight, the way he patted their necks and talked in a low tone to them and his own clear eyes and elastic step were not less so.

Reaching the top of the hill, while the animals breathed, it was natural that David Parker should see a tuft of wild roses and gather them, which he handed to the other elder who in turn gave them to the women, who sat each in her square flag-bottomed chair, somewhat removed from the vulgar gaze of the "world's pecple,

each with her white cotton gloves upon her hands, crossed upon her gingham reticule. Each received the roses with a smile, and then with a sigh. Neither knew that she sighed, and neither observed it in her neighbor.

Electa, more impassioned and less strictly bound by the order, inhaled the delicious perfume with a tear that came to the threshold of the lid, but was as instantly repelled. As David Parker resumed his seat and reins, she said, as if she more thought than spoke,

"God has created so much that speaks to the soul, so little to the appetite."

Whereat, the two sisters each placed an elbow in the 'hollow of their left hand, closed their eyes, and held a rose to the thin, white nostril, exhaling assent by a low groan.

"Yea, yea," said the elder of the two men.

Scarcely a mile of level road and then they came to another hill, down which the well-trained horses squared their flanks to retard the speed of the wheels, tossed their heads, and gallantly passed the ugly slew at the foot, and their easy shoes clattered over the wooden bridge, without a rail to bar out the brook as it brawled beneath over mosses now dark and of a bronzed green, and now of a lighter hue topped with ruby cups—there was the stump fence overgrown with vines, and there,

"Look!" said David Parker, "there is a gray squirrel," and he hardly pointed with his whip before it send through the old "fantastic roots" and perched itself at the top, where it began to dress its plume with the nicety of a woman combing her hair.

"I'm sure that the creature feels pride," said Sister Maria.

"Yea, yea," answered the elder.

By this time David Parker had sprung again from the wagon to relieve the horses, of course, for a staid Shaker, high in office, high in the confidence of the sect, is not supposed to feel any of the mercurial tendencies of the "world's people."

When he returned to the wagon at the top of the hill, his face had a glow of manly beauty, and his eyes a look of manly force and self-reliance plainly to be seen, though there was a spatter of water under one eye, which must have come from the champing bits of his favorito horses. It was a fair prospect now, a school-house was hard by, and the children, with straw hats or a blanket pinned over the head, came running out book in hand, and almost bumped their heads against the horses in their eagerness to bow to the "Shakers," who were regarded with much the same kind of interest that

might pertain to a Chinese Mandarin, or Dancing Dervish in the benighted districts where these specialties are of rare appearance.

The white church-spire, the clank of the anvil, and the rush of the mill-wheel told of one of those thrifty villages which abound in this prosperous and favored region. The old elder had several boxes of seeds to leave here and other small commissions, and soon a head might be seen at almost every window intent upon seeing the "Shakers." The blacksmith appeared at the door of his smithy in his leathern apron; the shoemaker, he always has a very large window to his bird-cage of a shop, held his two waxed ends aloft while he took a good peep; the minister, emerging from his door, eyed them with the corners of his mouth drawn down. and his eyes rolled up, for to him they were dangerous heretics, worse than the heathen; the milliner held up a gay bonnet with a laugh, as Sister Maria peeped out in that direction, who in return smiled her grave smile and shook her head; the tavern boiled over from cellar to garret, where dinners were being cooked, and pillows and beds seemed intent on crowding outside and leaving the premises in disgust.

Soon the wagon was under way again; past the shops, past the white houses with green blinds, modestly retired from the street, and fronted with lilacs and rose-bushes; up the rise and spacious area where the tavern was flanked by stables and sheds, and vehicles of every kind were standing here and there with horses of every hue and shape, with their long traces and high wheels and swinging whips, as if the very idea of a horse involved whip also; wheeling with a sweep past the church, and the "Methodist meeting-house" further on; out again to the open country; past old farm-houses painted red, and farm-houses with only the beautiful tint imparted by time; houses with fences and without fences about them; houses with a green area in front, and the remains of an old yoke half buried in the grass, upon which sat a barefoot child, who covered his eyes with a round brown arm and peeped out under it; houses with a board fence laced with children, whose yellow heads gleamed in the sunshine, and whose naked toes pinched the fence, while they tossed their arms and shouted at the "Shakers," and an ill-conditioned dog darted out from an old cart and barked furiously, his tail so tightly coiled that it was a wonder that it did not twist itself off; past great rich farm-houses with barns so full, that they seemed to be crowded and aching with repletion, and the poultry too used to people to be afraid of them; the cattle

too lazy to more than chew their cuds, except) several young untamed colts which trotted up and whinnied over the stone wall; but the great dog did nothing more then lift up his head and look at them, he was too well-bred to bark; and the handsome girl, who stood at the secondstory window shaking a tick which she held in her teeth into its white linen case, afforded them but a passing glance, or she released the pillow and gave it sundry tosses and pokes and slaps, which ought to bave been very gratifying to it from such pretty hands; and so on, up hill and down, turning now to the right and now to the left, they at length came to a descent, where there was a lovely lake and ledges of rock, tufts of pine in the distance, groups of elms with long branches parting and waving and covered with foliage down to the roots, making one think of a graceful woman with her children clinging to her skirts; willows turning their silver side to the light as the high breeze whispered, "now is the time to look your prettiest;" and far as the eye could reach adown the vale were orchards, the trees so regular that you were sure they had been compelled to toe a line as children do a crack at the public school. It was a peaceful, prosperous-looking place. An austere man, with wrinkles of every size and shape, swung open the great gate, which did not groan or creak any more than the wheels of the wagon, which moved without a sound, as they swept up the avenue, the horses whisking their tails with satisfaction, and the elders looking pleased as the brethren and sisters of the order came forth to meet them.

And this was the Shaker village of not many houses—and these large, square, unpainted, two stories in hight, with a broad hall from front to rear. The floors were without spot or blemish, white as boards could be. The clear, small-paned windows, three to every room, were shaded with scanty curtains of blue and white check. The tables were white, and each had a white cloth and a pretty basket in the center, in which were placed several stockings in process of being knit, the polished needles looking like fine instruments of torture. The chairs were straight-backed and white, upon the pummels of several, shaped like an apple or globe with a nipple at the top, hung gingham bags, every string of which was tight and evenly drawn. Such wonderful beds! never a stain or rumple, the blue and white coverlids falling upon every one just so far and no more, showing just so much of the legs, bulging at the calf where the coverlids reached, and tapering to an ankle, seeming hardly decorous in the bedsteads

belonging to so decorous a community. How plump, fat, and inviting looked the feather-beds! Let doctors talk as they like, there is nothing in a cold climate equal to a feather-bed—soft, warm and electrical; it is said people do not die as quickly at least upon feathers as upon a mattress, which is proof positive that they are good for the living, and help to ward off the last great encounter.

CHAPTER XIX.

THE LOG DRIFTS SEAWARD-DAVID PARKER.

TOHN STEARNS did not come forth to meet Electa, though he had written for her to meet him there, and had preceded her by several days. She found him seated in a highbacked, square-built arm-chair, which, so far from ministering to any ideas of comfort, looked rather as if designed to hold the body just at an angle which precluded any idea of such a thing, serving to sustain it and no more. He was greatly changed since she had last seen him and was wasted and haggard. An old elder and Sister Maria were present at the interview, who seated themselves one at each end of a small table that stood between the windows, where the one busied herself with knitting a pair of blue stockings, which, judging by the size and length, must have been designed for a large man; and the other with his lank limbs crossed like a pair of trowsers over a rail, slowly twirled his two thumbs now from and now toward the scoop in his waistcoat which indicated the location of a stomach.

The chair of John Stearns had its back turned toward the elders at the other end of the room, and he motioned Electa to one standing in front of him. He fixed a long, earnest, solemn gaze upon her face, and then uttered a deep groan. With a trembling movement he took the small silver box, of which we have before spoken, from his pocket, and held it in his closedt hand.

"I have tried to hold my peace, and bury mysin with me in the grave, but God is strongerin his judgments than we poor worms of the dust,, and he compels me to speak."

"Why should you speak to me, John Stearns?" asked Electa, with a startled look.

"Because I have so longed to hear a voice which I shall never hear, and yours is like it." He turned the box over in his hand as if about to open it, and then twisted the sleeve of his coat between his fingers, and subsided into that worn, despairing look so often manifested by invalids.

"If thee has any thing on thy mind, John Stearns, it is better to face it bravely. Thee gains nothing but prolonged misery by holding silence."

"I had hoped to mend my life and do a man's work in the world, but I have been confused and worried, and have never seen my way clear what to do."

"Have I any thing to do with thy unhappiness? if so, I would do much to relieve thee."

"I will tell you a story that happened to a neighbor of mine." He spoke with an eager, appealing look, pitiful to behold.

"I will make my story short. He was a young man living in Quebec, well to do and well respected, an official in a public office. He married, as young men will, too young, and she with no wealth but her goodness and her beauty. She was one of those women that men are never happy with; somehow they take too much from us, and we are made the more hard by their very perfections."

"And we are made the more hard by their perfections," Electa repeated, as if struck with a new thought. He proceeded.

"She was tender and confiding, and the moodiness of my neighbor distressed her; but there was one thing in which she did wrong—one secret which she held, and that became the foundation of great misery, and the man has tried to cover up his sin by imparting some blame to her."

"It is our own individual acts, without reference to any other human being, that are good or bad."

"It may be so, Electa. Well, she held her secret. She became the mother of a child, and after that something seemed to change her. She grew nervous—something troubled her—she wept much, and was often absent from her home and child, and when she returned, she seemed utterly prostrated with grief.

"Her husband tried to obtain the secret of her trouble, but she implored him to overlook it, to bear with her, all would come around right, and she would explain all to him; but he was impatient—he grew wrathful at having the peace of his household destroyed. He lost his faith in her, and secretly watched her." Here he held the box to his breast, and the hand that held it moved up and down, as if a great anvil beneath labored under heavy blows.

"He followed her one morning to a solitary place in the outskirts of the city. He saw her enter a thick copse of wood and undergrowth. He hid himself behind trees and followed, for she looked about her as if in terror. "'Come on,' said a rough voice, 'have done with fooling, and give it to me. Do you want the hounds upon me?"

"A man rose from the bushes and approached her. He recognized in him a young man, who two years before had been sentenced to imprisonment for a robbery, and on the conviction of whom, he, the husband, had been one of the jury. He had escaped from prison, he well knew. He saw his wife give money into the hands of this felon, and he saw her rush forward and fling her arms about his neck.

"Quick as lightning he sprang upon the pair. He dashed the woman to the earth, and God only knows what more he would have done, had not the wretch plunged a knife into his breast and made his escape. Insensible and bleeding, the two laid there till a hunter and his dogs found them and gave the alarm."

Convulsed almost past utterance, John Stearns finally broke forth, "She was dead!"

"And she was my mother!" exclaimed Electa.

"And you killed her!"

"Even so, my child!" and the wan, imploring face he lifted to hers—and the pale, trembling hands were pitiful to see.

"And who was he?"

"Her brother! and she had held the secret from me that she ever had a brother."

"Thank God! and yet I would have had faith in her were it otherwise!"

He opened the box, and the long, beautiful hair, with its tangle, streamed in the light.

"It was hers; I knew my mother kept it, but I never looked upon it till she was gone." After a pause—

"My child!"

But Electa walked the floor with her head raised, the hair streaming between her fingers, and nurmuring,

"O mother, mother!"

"My child! can you not speak to me?"

"I can not speak. I can not think. I can only feel."

He sank back in his chair with a despairing

"Why do you tell me this?" and she stood with a stern face looking down upon him.

"Because I am a weak, bad man, and could bear my misery no longer, when I knew for certain that the face I had seen, and the voice I had heard, no matter how, belonged to her child."

"O mother, mother! To think of the happiness of having a mother's love! Oh! Sister Maria, bear with me!"

"Yea, yea," responded the good sister.

"Nay, nay," cried the old elder; "these affections are carnal, sold under sin. I will call David Parker," and he arose and went out. Soon he returned with the young elder, who must have known beforehand the story of John Stearns. He was very pale, and hesitated to speak.

"David Parker, I know all you would say. Speak not till this tempest within me be overblown. My mother! mother!" and she walked the floor repeating the word, as if it called up an untold tenderness from the deepest fount of her existence.

David Parker listened as if this tempest were a new and wonderful revelation to him. His lip trembled and his cheek paled. Then he approached her, and laid his hand upon her arm, how softly, how tenderly, "Electa!" He did not say Sister, only "Electa."

She leaned her head one moment upon his shoulder, and all the flood-gates of her tears were loosed.

"Nay, David," said the old elder; "thee forgets thee's calling. Thee is on the brink of destruction."

Electa lifted her pale face and approached John Stearns. He was hushed, pale, silent.

- "God forbid that I should add any pang more to thy wretched heart."
- "An old log, twisted, knotted, of no use in the raft, left to drift out to sea," muttered the mill-man, dreamily.
 - "Father, forgive me," whispered Electa.
- "Lillie! had you only trusted me! only trusted me!"
- "Father, that is all over, all atoned for. Be comforted, dear father."
- "I saved all my earnings, and gave all to your child, Lillie."

His eyes were half closed.

- "Dear father, look up! I will comfort you."
- "I tried to bring it round right, but 'twas all crooked—full of knots! cast down the stream! drifting! drifting!"

Electa did not see how the room was filling, and how the elders stood with bent heads; and the sisters in their broad-strapped shoes and high-shouldered gowns, with plain hair under their white, plain caps, had entered, each pale and solemn; nor did she move from her father's knee, though the rich, manly voice of David Parker was uplifted in prayer; nor did she know when the laboring heart ceased to beat, and the plash of the eternal tide laved the warped and water-worn spirit that had ceased to contend with its onward drift.

It was David Parker who lifted her from the floor—did he look into the pale face? did he press the inanimate shape groaning to his heart? Who shall say? The sisters laid her gently down as they had laid the child down, years and years ago.

The body of John Stearns was laid in the ground within hearing of the mill of the Shaker village, and the community returned to its accustomed round. Electa, pleased to be occupied, went from place to place, resuming her old familiar occupations, now in aid of the assortment of seeds, and placing them in their neat, paper bags, to which the name and mode of culture was carefully appended. Now manufacturing those perfect diminutive baskets, constructed of the fibers of the linden tree, and so coveted as receptacles for sea and mountain mosses, or placed upon the table, imparting a look of taste and comfort and industry to a lady's room. She turned the low wheel for the spinning of the snowy thread of linen; she stepped lightly back and forth at the large wheel producing the pure, even threads of worsted or woolen yarn, for Electa was a skillful workwoman, and the community were proud of the training they had given her.

The Shakers are industrious, but not toilsome. Thoroughness is the prevailing idea; nothing is imperfectly done, hence, the public confidence in them is never weakened, and a Shaker product takes precedence of all others. Plain are they, simple, even austere, but there is a pervading air of comfort, if not ease, and a self-reliant pride in themselves and their doings, and their growing influence upon our ever-changing, ever-experimenting people, who seem for ever just on the threshold of solving the problems of human society, and seeking that ideal for which sages had struggled, martyrs died, and poets dreamed.

The flower-garden was rich in garniture, and rich in all herbs that might have been familiar to Solomon when he studied the hyssop upon the wall and the cedar of Lebanon. Here children adopted by the community were taught those light avocations which were best suited to their age, not precluding that delight to a child of climbing a tree and riding upon a fence. Sturdy, brown, healthful boys and girls were there, who, if unpossessed of the graces of society, were never likely to become its pests. Cats were numerous, and kittens petted here as elsewhere, for the granaries were extensive and the rat a skillful depredator, though it is doubtful if human beings would not persist in harboring the friendly dog and dainty cat, even if they were of no use other than in being companionable.

Thus the days wore on, and Electa recovered her wonted serenity. On the Sabbath she divided the services of the day by an exhortation to that high, spiritual growth which is the end and aim of life, and then her clear, silvery voice rose above the sharp tones of the sisterhoed, as they moved in solemn dance, singing hymns of praise and songs of adoration to God. The low, plain place of assembly, and the quaint solemn air of the worshipers, had a touch of

primitive sanctity about them as they circled round, each with eyes lifted upward and hands slowly moving in concert with the voice. It might be observed that the floor was worn smooth in the pathway of this religious dance. Several of "the world's people," who had come from the neighboring villages, occupied seats along the side of the walls, and these though at first disposed to more than smile at the grotesqueness of the dance, were soon subdued to a sense of mysterious and solemn sympathy.

The Faults of Character.

BY REV. HENRY WARD BEECHER.

T is difficult to define exactly what we mean by a fault. There is a popular impression, which is nearly correct, that it is a minified sin; that it is something irregular; but that it lacks in magnitude or intent something of that which goes to constitute a positive sin. In many instances faults are simply irregularities in execution or mere inattentions, negations, and almost always have this quality of being incidental—not purposed, nor the result of passion.

Many persons suppose that there is merit in faults. I think they do not discriminate very wisely. It is true that perfect people are the most disagreeable and intolerable people in the world-those so-called perfect people who, in order not to speak wrong, never speak at all, and in order not to do wrong, do nothing :/those cold, precise, inelastic, hard, smooth, polished people, who are regarded as perfect—by themselves. It is true that you hunger and thirst for some roughness, and you wish such persons would break out somehow, and seem to be human. There is an impression, derived from excess in that direction, that faults are signs of a fertile nature—and if it be so, how fertile some natures are! They are thought to be like the roughness of a rock, that are a sign of strength; like the bark on a wholesome tree; like gnarls and knots on the oak; and people say that they would not want a man to have fewer faults, because there is a kind of robustness that they give.

Now, there may be certain sorts of faults of which this is true—faults of manner, or faults of irregularity; but this ought not to blind us to the moral character and to the effects of faults that are seated on conscience; that involve principle; that touch the question of benevolence and selfishness; that have in them certain relations to the waste or the supply of life; that run their roots even deeper, and touch the very seat of honor, and, one may say, of character and salvation.

One of the reasons why faults are so frequent and so little considered, must be, of course, a general imperfection of human nature. But the unconsciousness of men as to the details of their life while they are pursuing weighty matters, is also a reason of the faults of which men are the subjects. They are unconscious of them, largely, because there is very little friendship that takes upon itself the offices of true friendship. This is that which makes the household so valuable. The father and mother love their children so much that they can tell them their faults. There is a fidelity possible in the household without risking friendship or love.

There is a discipline of the school and in public affairs, as well as in the family. Where boys and young men are thrown together, the attrition, the intercomparison, the angry taunt, very soon makes men aware of those social faults which are apt to be disclosed in the social circle. But there is very little friendship aside from that of the family, which teaches a man, after he gets out of the school and out of the family, what his faults are. There stands in the Word of God the command, "Confess your faults one to another;" but for the most part men are selfish and inconsiderate of other's wel-

fare, and one does not dare confess his faults to his neighbor. He says, "If I should, it would be putting a club in his hand, and by and by he would strike me with it. He would get angry with me, and the facts would come out. Or, if we should chance to come into competition in business, he would use them to my disadvantage. It is not safe." And this judgment is right. There are very few people to whom it is safe to trust. There are very few men whose judgment of your faults it would be safe to trust.

From these various infirmities of men, we grow up with clustering faults. Many of them reach to the very vital point of character. And no man speaks to us of them. Men are surprised if we accidentally learn them.

Among these faults are temper, anger, irritableness, peevishness, moroseness. More than any other feeling, temper depends upon the conditions of health. It is very largely the result of irregularity of the physical system, and is to be trained against by sanitary laws. Yet we are not to excuse ourselves on that ground; because the most inveterate men in this regard find that, when they are in the presence of those whose opinion they respect, and whose good will and praise they long for, they know how to restrain their temper. Vanity can restrain it. Self-interest can restrain it. And if by such lower instincts one can restrain his temper, why not by conscience?

It is supposed that these ebullitions of temper are petty, insignificant faults; but I can not consider the opening of a fountain of unhappiness in the family or in the social circle a petty matter. A single instance may be excused; but the habit of being peevish, sulky, and morose, is not a petty fault. It rises to the dignity of an ample and multitudinous sin. For nothing more destroys the happiness around about men than a bad temper. It is in the power of one person in a family to keep that family in smoke all day long.

A bad temper usually vents itself on the weak, and those that are not able to help themselves. Our peevishness generally works down to our inferiors and subordinates and dependents. It also is an infliction upon our friends; for we take it for granted that they love us well enough to bear it. We are often peevish and snappish toward them, when we would not be toward others. Toward superiors we are seldom liberal and free with our tempers; but toward those that are below us in life we do not hold it back. Many business men bottle up their temper during the day, and save it til

they get home at night, and then it is a household confection, a luxury of the family!

This may seem like a small thing. It is small just as an aphis is small. In the summer aphides multiply by millions, and cover the leaves of plants, and weigh them down, and suck the life-juice out of them; and, though each one is small, a million of them put together are not small. And so it is with petty faults of temper. Each flash or spark may be small, but where one carries his temper like a smoking brand and swings it evermore, the whole career amounts to a good deal more than a fault.

Overworking is largely a cause of bad temper. Where persons are under such stimulus of ambition and competition and avarice, as our people are, they frequently work up their excitability to a morbid condition; and, though they are said to have bad dispositions, their habits are worse than their dispositions. They are overworked, and therefore they bring their brain-system unto an abnormal condition.

Over-eating, derangement of the digestive function, is also a large occasion of bad temper. There is a current idea that after dinner a man should be approached, because that is the time most favorable to good nature. This may be true when men are half drunk after dinner; but ordinarily undue eating brings on a train of symptoms that result in any thing but amiableness and complacency. And that which is true of eating is also true of stimulation. Drinking, not to intoxication, but to excitability, is a frequent and most powerful cause of irritableness.

I may also mention faults of the tongue. One of these is extravagance of speech. There is a kind of extravagance which is in the nature of wit; and there is another kind which has neither wit nor wisdom in it. The habit of superlatives is a habit which is contrary to good taste and good judgment. The habit of extravagant statement can not be indulged in continuously and long without materially marring the moral sense in its relations to speech.

The fault of profanity may likewise be mentioned. Many people think that profanity is only an interjection, an explosion of strong feeling, and that no harm is done by it, while it often gives relief. It may be true that a man is benefited by some expression of strong feelings; but it does not require that he should take the name of God, or any sacred name, in vain. It is bad for his taste. It is bad for his kindness and benevolence; because it wounds the feelings of those around about him. It is bad for his religious spirit. It is bad every way.

It is the most inexcusable of faults. It usually begins in vanity, and is continued as a mere matter of habit or temper. Small boys swear because larger boys swear; and larger boys swear because men swear. And there is no comfort, nor profit, nor honor, nor good, in any way whatever, in it. It is sheer badness.

I may mention, also, the faults of untruth. I am not referring, now, to wanton, deliberate, malicious lies; but rather to what may be called speaking the truth to a hair-breadth; speaking the truth so as to leave the impression of untruth; holding one's self technically right, and yet being in effect wrong.

The general rule in this matter is, that the tongue should be usd, not merely to avoid untruth, but to glorify truth, and promote virtue, honor, love, and duty. The tongue should be like an instrument of music. Its positive utterances should need no defense and no excuse.

Let me mention, too, faults in the carriage of the mind toward others. There are faults of suspicion and criticism. There is nothing more frequent than for men to criticise their fellow men on the dark side. We see, remember, report, digest, perpetually, not that which is for the honor and well-being of the person discussed, but that which can be made a matter of amusement for the moment, or can be made to serve our interests.

The law of kindness on this subject is, Never speak any thing that is injurious of another, unless you have some distinct end of good in view.

Faults in honorable fidelity, to which the young of our nation are peculiarly liable, should not be omitted from this category. Almost every man, at one period or another of his life, is obliged to act in subordinate relations. And in such relations men are apt to study their own interests, and not the interests of those whom they serve. There is a want of zeal and fervor of fidelity. There is the low and selfish feeling that they are relations which a man sustains for the purpose of taking care of himself. The feeling of many a young man is, "My employer must look out for his own interests, and I will look out for mine." He substitutes for generous honor a feeling of personal selfishness.

Carelessness of other's affairs is a variation of the same thing—especially the affairs of persons that are great or rich. How many persons feel that, while they would not commit an offense against property, they do not sin when they are merely heedless of the business in their charge! But there are circumstances in which heedlessness amounts to crime. This is a fault whose roots, if they are not cut, grow deeper and

deeper, till by and by carelessness becomes vice.

More consciously in fault are they who serve prefunctorily, with eye-service, as men-pleasers, and not as truthful, honorable, conscientious men. Very few men can be found who will work as well for you when you are gone as when you are present. There are very few men who do not put a little more fidelity, alacrity, precision, and promptitude into their doings when the employer's eye is upon them.

There are faults of business morality which require a passing notice. There is an impression that we have a right to defend ourselves by doing wrong to those who do wrong to us, and that we have a right to be judges in our own cases. It is very common, in society, for men to take the law into their own hands, and plead wrongs that they have suffered, in justification of wrongs that they have done. They are determined to make it even. They mean to be avenged or indemnified. And usually this is in cases that are not adjudicated; and cases in which men hear but one side, and that their own; in cases in which they constitute themselves their own judges, and execute justice on their own responsibility.

Now, no man has a right to fight fire with fire. No man has a right to defend his own reputation by blackening the reputation of the man who has aspersed him. No man has a right, because he has been cheated, to cheat when he gets a chance. No man has a right because another man has put a bad bargain on him, to put a bad bargain on another man. The law of obligation is always the same.

Another fault of morals in business is taking advantage of mistakes. For example, change is being made for you, and the man gives you back more than you gave him, as well as the article you have taken. You pocket the money and say, "I am not bound to do business for him and myself too. I am not responsible for his blunders." Is that honest? And yet are there not many that do it? I know men who I suppose you could not bribe to join a band of counterfeiters, and produce and circulate bogus money; but who, if they were riding down town at night, and had a bad bill put on them, would say, "I can not afford to have it lie on my hands," and shove it along, having no conscience in the matter. How many men are there that, when they get hold of a bad bill, do not have a sort of impulse to get rid of it, without stopping to consider what the moral character of such an act is! Because you have a bad bill put on you is no reason why you should put it on somebody else. And though a man does not make bad bills, if he lets them go out of his hands deliberately, he is a counterfeiter in the sight of God. This is a question of manhood. Back of all money is truth, fidelity, morality, honor, and trustworthiness; and these ought to be matters above dollars and cents to you. If you take in a counterfeit bill, do not

wait till the devil tempts you twice. Burn it at once.

I might also mention wasteful habits, such as indulgences in food and drink and stimulants; but enough instances of faults have been given to awaken your thoughtfulness, and enable you to make applications of the general subject to special cases which I have not touched upon.

Determination of Life.

BY F. B. PERKINS.

HAD an acquaintance who used to say that she was going to live three hundred years. She was a lady of great natural abilities and much culture; she used to say this in a very curious tone of half jest, half earnest.

"I know I can," she said; "it only needs the will and a right life; and I will!"

Whether she really will I do not know; I shall not undertake to wait and see, like the old woman who bought a crow to see if it would live a century.

A good many physiologists, however, have earnestly taught, and with a good deal of reason, too, that an average human being ought to live a hundred years. I suppose the average human machine is really capable of running a century. It does not now run much, if any, over a third of that time.

We can really do a good deal to lengthen our lives. But we can do infinitely more to widen them. A life fifty long and fifty broad amounts to twenty-five hundred; whereas, if it is a hundred long and only one broad, it amounts only to one hundred. It is twice as long as the other, but only one twenty-fifth as large. Besides, to lengthen life, is absolutely within limits of possibility; we possibly can not do it all; we certainly can not do it beyond some number of years, but we can all widen our lives, and the limit is only that of effort. We can work, we can read, we can study, we can talk, we can think, we can do right and avoid wrong, we can help.

One of the strongest and most consoling facts about enlarging our life is, that the higher the grade of improvement sought, the more utterly is it within our own control. A disease born in me may kill me, with absolute certainty, at thirty-five; there goes my century, and I can't help it. The circumstances of myself and

family may rivet me as within eleven-inch turret iron to the steady daily drudging of some mere hard work. There goes all my elegance and leisure and learning, and a good deal of my thinking. But neither God nor man can prevent me from gaining self-control, sweet-heartedness, thoughtfulness, and helpfulness for others; from steadily rising, and rising in the moral and spiritual life.

These paragraphs are not directly, but they are nearly, in point, with reference to what I set out to say; and that is, about Determination of Life.

I suppose I am talking to grown-up folks mostly, and they are most likely to answer:

"I'm thirty—forty—fifty—sixty. My life was determined long ago—only fag ends of it left. You have nothing for me."

Yes, I have—for a good many of you. Suppose it is too late for yourselves? It is not too late—with many of you—for those that I had chiefly in my mind. As was just said, the noblest is always in our own power. It is infinitely higher to help others than ourselves. And lastly—it is this that I was coming to—it is a truly American idea—I should say it is a human idea—one of the noblest and sweetest things in all humanity—

We must do better for the children.

More in this country than anywhere elso is it true, that parents can do better for their children than was done for themselves. Nothing can show the truth of this so well as a comparison between ourselves and England on this point. That country is probably the nearest in the world to the United States in average hopefulness of condition, including all things together—wealth, social condition, intelligence, morality, and religion. Yet now compare the average condition of the two countries—that

is, of the poor and of those who work for a living.

A man begins life with nothing, except what the Irishman called "his four bones." In the United States it is the rule for him to gain a piece of land, live in a home of his own with a wife and children, to become a voter and probably a public officer, to give his children a better education that he had, to start them in life with more money, more learning, more mind, more chances for prosperity of every kind, than he had himself.

But in England the chances are many that a poor man's children can not rise above his own level. He can not buy a piece of land. The proprietors will not sell it to him, and if they would, there are no public land records there, and absolutely the poor man can not afford the cost of searching a title and getting a conveyance made out to him, let alone the cost of the land itself. So he can not own a piece of land, nor have a home of his own. He can have a wife and children, but wages are so low that he can barely pay his own way from his own earnings and those of his wife and children together, and the children can not even go to school. And if they could, there are no schools; at least none in our American sense of the term, free and equal to poor and rich alike. Nor can he vote. At least there is a property qualification which acts as a substantial prohibition; and as a matter of fact the chances of being a voter in England is exactly equal to that of going to the poorhouse. The number of voters in England is just about that of the paupers. There are about a million of each. And without a vote for himself or schooling for his children. he can neither rise in consideration himself, nor put his children in the way of doing so after

This superiority in the children's chances, is doubtless one of the strongest of the many cords that are drawing all Europe over here.

Now, the children's lives are at first, certainly beyond their own power. The little folks don't know what they are nor what they want; they are entirely passive to the shaping hands of their elders. While it is true that we can control our own lives to a certain extent, it is equally true that nothing can free us from the results of our childhood and youth. We never escape from the influence of that part of our lives which we could not control. Childhood is to a great extent the directing fate of life. Parents are the absolute monarchs of childhood. And thus parents direct the fate of life. Such reasonings show how right I am in begin-

ning before self-control is possible, when I discuss self-control. It is only preparing the provisions and musket and ammunition for the enlisted man; and drilling him in the marching step and the manual of arms before the army sets out. Twenty-nine inches, and hard bread, was the basis of each campaign of victory for Napoleon. That is the length of the regulation step. So many steps a minute, so many hours a day, carries the armies to their converging at a time and on a point that only the great commander knows in his own secret soul. Having the provisions and marching on time, his combinations exploded the unsuspecting foe into the most utter destruction. Give your young soldier his provisions and ammunition and weapon and squad-drill while you can. The campaign of life will draw heavily enough upon all the preparations you can give him. And unprepared, he marches only to the hospital.

As I said in a previous paper "people differ." So do children. And the principal problem for the parent who educates his children is, to prepare them to do their best thing in the best way.

The truth is, that children compare with adults as wax statues to cast-iron ones. You can shape the former almost as you choose within the limits imposed by the weakness of the material and its danger of injury from heat or cold, blows or carelessness. The cast-iron figure is comparatively impregnable to evil, but it is comparatively inaccessible for good, too.

Life is determinable far more for our children than for ourselves. It is far more for their children than for themselves, that thoughtful and wise and kindly parents are anxious and diligent.

I had it in mind to suggest something in detail in determining the children's lives; but I can not do it at the tail of a paper. I shall try to hereafter.

OBSERVATIONS appear to show that the rule that the quantity of oxygen taken in by respiration is, approximately, equal to that given out by expiration, only holds good for the total result of twenty-four hours respiration. Much more oxygen appears to be given out during the daytime than is absorbed; while at night, much more oxygen is absorbed than is excreted as carbonic acid during the same period. And it is very probable that the deficiency of oxygen toward the end of the waking hours, is one cause of the sense of fatigue at that time.

Growth and Development.-V.

BY ARCHIBALD MACLAREN, OF THE OXFORD GYMNASIUM.

MOST important principle in Exercise, and one which should ever be borne in mind, is, that it should be regulated by individual fitness, for the exercise that scarcely amounts to exertion in one person will be injurious and dangerous to another. * And not only is this inequality observable among different individuals, but, as we have already seen, the same individual may have parts of his body possessing special power or presenting special weakness. A man may have limbs capable of transporting him at the rate of four miles an hour throughout the day, and for many days in succession, but with heart or lungs all unequal to the effort. Or he may have an organization so frail, and a temperament so susceptible to stimulation or excitement, that the one is an abiding danger to the other.

A DUTY.

It is every man's duty, therefore (nor is it a very hard one), to endeavor to ascertain the nature and extent of his physical resources, for his guidance at all times, but especially when contemplating any special and exceptional exertion. And it is from the non-observance of this principle that we hear so frequently of accidents and cases of serious indisposition after unwonted physical effort. If any one whose habits of life have been of a comparatively sedentary nature, suddenly, and without any preliminary preparation, resolves to change these habits for active ones, he will unquestionably derive harm from such an attempt, simply because, in doing so, he is infringing those principles which alone can make it useful. Thus, if he attempts an exercise which is suited to one whose frame, from regular and continuous practice, is capable of performing it without fatigue, if he makes a demand upon his heart and lungs that is beyond their power to sustain, because he sees another man make the same requisition upon his well-trained organs of respiration and

circulation; or if he selects a certain time of the day for exercise because it best suits his business arrangements, although his brain may be weary, his mental energies exhausted, and his bodily energies depressed, how can aught but disappointment be the result? The stomach when enfeebled by fasting can not all at once digest a copious meal; the lungs weakened by illness and in-door confinement can not breathe all at once the external air; the mind depressed by grief can not all at once be trusted with the full tale of glad tidings. Yet a man does not hesitate to change the habits of every organ of his body as hastily as he would change an ordinary garment, and then to express surprise and disappointment if benefit be not the result of the change.

INDIVIDUAL FITNESS.

The infringement of this principle, that "Exercise should be regulated by individual fitness, that it should be approached gradually and increased only with increasing strength," has been the cause of much perplexity and suffering. Scarcely a summer passes without our attention being drawn to some victim of its transgression—some one who has escaped suddenly from his desk or study, and, without preparation, or gradation, or precaution of any kind or degree, has betaken himself to mountain-climbing, shooting, boating, or some other exciting pursuit, to break down in the effort, or to struggle through it and sink down for many a month and day after it, his powers overtasked, his energies exhausted. Now for the brain-tired, city-worn, business-weary man, these are the pursuits which he would do best to follow, and these are the scenes among which he would do most wisely to mingle, did he do so in accordance with the dictates of reason, and in obedience to the laws by which health and strength are maintained.

CHANGE OF AIR.

This is, however, the abuse, not the use of a valuable custom which is yearly extending, and extending, too, among the very men who need it most and to whom it will yield the most immediate and lasting benefit; a custom which, it adopted judiciously, will give a healthful fillip to the flagging energies of both mind and body. We call it "change of air," and the term is just as good as any other, but it very imperfectly

^{*}A painful instance of this nature was brought before me some time ago. A man boasted to m: that he and his son—the father a strong, hardy man, the son a lanky and loose grown lad of thirteen years—had iust walked rom London to Oxford in one day—a distance of nearly sixty miles. Before the year was out they made another ourney together—a short one this time—the son carried before, the father, broken-hearted, following. The boy had never recovered from the exhaustion of that day.

expresses the extent of the change, for it is change of every thing—every thing we see or hear, taste, touch, or look at, person, place, or thing—change of every thing we undertake, undergo, and (probably) understand.

But even when these holiday-breaks are made most sensibly, they must not be regarded as the all-in-all of the exercise to be taken. A man can not in a week or two eat sufficient food to supply the demands of appetite for a whole year, neither can he take sufficient exercise to keep his body in health throughout the four seasons in a summer's ramble. These mountain excursions or sea-side sojourns must be in addition to, and involving no curtailment of the daily walk to or from business, the daily ride to or from somewhere, or the daily employment with or at something; a something which will in its doing quicken the pulse and augment the breathing, and, if possible, bring the perspiration to the forehead.

OTHER HEALTH AGENTS.

Exercise may be favorably connected with other agents of health, such as bathing, in the practice of swimming; and with fresh air in country ride or ramble. To men living in large cities-the men of course whose need of exercise is the greatest-it seems but a tantalization to recommend a country ramble; but there are a great many men pining for want of proper exercise who do not live in large cities, and there are a great many others who spend but a portion of their time there, with whom an occasional break along the green lanes in the saddle, or across the meadows on foot, would be a matter of easy accomplishment. Men do not know what they possess in these cross-country byways, and in the power of traversing them on foot-the pleasure, the profit of walking-the first exercise enjoyed in life, the last that is freely taken. But a walk, to be a real enjoyable exercise, must be a country walk, a country ramble, in fact—the antithesis to the "constitutional" of a measured mile of way on the dusty road-going where fancy prompts and inclination leads, forgetting alike past mental labor and present physical effort in the successively recurring objects of interest that will rise at every turn of the path. The country walk is an exercise entirely our own-purely Englishoriginating doubtless in many favorably concurring circumstances, mental and material; such as love of country-life and country-scenes, · of natural objects in their natural places and in their natural aspects, and also from that blending of the thoughtful with the practical ele-

ments of character which is peculiar to our own race; and doubtless also to the facilities presented for indulging in by-path pedestrian peregrinations. I have wandered on foot through many a land, but have never seen these dear old stile-paths in any but our own, nor have I ever met abroad the man who cared for them. or could comprehend any pleasure in this source and this scene of exercise. The country walk is good for both mind and body, clearing the brain, and quickening the pulse by the same means. If a man wanted an aid to thought, a help to enable him to look all round a point difficult of access, and at the same time find the antidote to close mental application, I would say, "Vault the first stile in the first meadow, and let your mind track out the windings of the way of your subject of thought, even as your undirected feet might track out the windings of the unsurveyed path on the greensward -through meadow and field, through coppice or common, by river-side or plantation-rowthe villager's right of way, secured to him by right of immemorial usage." For the young and for the middle-aged, for the one as a change from his more energetic and concentrated physical exertions, for the other as a means of bodily exercise and mental beguilement, I know no better recreation.

RESULTS OF IGNORING INSTINCT.

I have spoken of the irregular and indiscreet yieldings to the natural instinct for physical exertion which is to be found in almost every nature-subdued, it may be, but not dead-and waking up and asserting their claims on every favorable occasion; but the evils which come from these are not so great or so startling in their results, nor do they seem so blamable a transgression as when these instinctive cravings are blindly and persistently ignored. How many, how marked, and how painful are the proofs of this, daily recurring. How many gifted men have broken down and are daily breaking down, with their life's work only half done, when they might, humanly speaking, have completed it with ease and success had they not carried it on in utter disregard of the fact that to ensure health of mind they must possess health of body, and at the same time set at naught the laws which the Creator of each has made the conditions of its healthful existence.

WHEN Patrick first tried peaches, he said he liked the flavor, but the seeds lay hard on his stomach.

The Cold Water-Cure.

THE doctors gave him up, and he
Gave up their medicines and things,
And sought another remedy—
Where sulphur is dissolved in springs.
Now fusil oil was sending him
Where patients take the sulphur pure,
So, though he was too weak to swim,
He "struck out" for the Water-cure.

He looked back to the Deluge, when
The water killed more than it cured,
And thought the flavor given then,
By sinners could not be endured.
"Water, when used to wash the skin,
A healthy mortal might endure,
But not a drop should get within—
His mouth, while at the Water-cure."

The bath-men seized him by the coat,
And there and then they stripped him bare;
He crammed a towel in his throat,
For fear the water might get there!
While in the bath he tried to cough,
And thought that he was going, sure,
Where the pure Croton is cut off,
And that is not a Water-cure!

There he was scrubbed from head to feet.

Meantime the cork of cloth flew out,
And while his lips were slow to meet,
And he was plunged and dipped about,
The water cold, unused to such a throat,
Ran slowly down as through a sewer;
He cried, "My kingdom for a boat—
To take me from the Water-cure!"

But could you see that man to-day,
You would, indeed, be proud of him;
I can not tell how much he'd weigh—
His motto now is, "Sink or swim."
When first invited to the Springs,
His body seemed a bony skewer,
And now the discus which he flings,
Shows what comes of the Water-cure.

Like Naaman in the water, he
Was dipped until he lost the skin
Which hinders, like the leprosy,
The health which seeks to get within.
And now he likes no other drink
So well as water cold and pure.
It would be hard to find, I think,
A better man at any Cure.

G. W. B.

Amusement Controversy.

BY WASHINGTON GLADDEN.

THIS amusement question is getting to be L one of the leading questions. I was about to say, that the views of the people concerning the subject are undergoing a revolution; but perhaps it would be safer to affirm that there has been an insurrection against the prevailing doctrine. When the insurgents shall be allowed belligerent rights, it will be proper to call it a revolution. At present there seems to be a disposition in certain quarters to have them all seized and strangled, without benefit of clergy. - A dispute so general and so earnest as this has come to be, is the best evidence that something is wrong; and it is rather difficult to believe that all the wrong is to be charged upon those who are fond of amusement. Both sides in a quarrel are commonly in fault.

The tendency to dissipation and frivolity is always present, in all forms of society. When our fathers and mothers were boys and girls, forty or fifty years ago, there was less danger from this source than there is to-day; but there was danger then. "Young folks always will be young folks," the matrons say; and the maidens may safely infer from that saving that young folks always were young folks. The love of play is the strongest of the passions which bear rule over the young, and there is always reason to fear that it will lead them into excess; always need that those who have the care of them should guard them against a multitude of accompanying evils. But this is a matter which must be treated with the utmost caution.

Any lack of precision in your philosophy will be fatal. If there is a loophole in your logic, your boys will go through it in a hurry. If you put that down for a first truth which is only a

flimsy fabric of prejudice and fanaticism, your girls, with their sharp insight, will soon see through it. Perhaps they will have so much respect for you, or so much reverence for the ecclesiastical authority which lays down the law to them, that they will never argue the question; but if there is the smallest bit of sophistry in your teachings they know it, you may depend. It is not well either for you or for them that you should thus embroil them in a secret strife between reason and authority. It is an irrepressible conflict, and one in which authority always goes to the wall at last. When they cast off your laws and repudiate your doctrines in this matter, your influence over them in other matters will be greatly impaired.

It is unfortunate, too, if an impression is allowed to obtain among the young that their elders have no sympathy with them in their love of play. If the teachers of morality take their places upon some awful eminence of superior wisdom, and show that they have but little regard for the natural tastes and preferences of those whom they are trying to instruct, it is not likely that their words will have much weight.

That there has been a want of sympathy between the old and the young, and that there has also been no small amount of illogical and preposterous teaching about the subject of amusement seems to me very plain. The evils connected with amusement are greater now than ever before in our land, and no small portion of their increase is to be accounted for by the unwise measures that have been taken to prevent them. Restraint was necessary, but the restraints imposed have been so unreasonable and injudicious that there has been a revolt.

and they have given way altogether. The whole subject needs to be thoroughly revised. If we would rescue our young men and women from the strong currents of frivolity, we must get a foothold somewhere upon solid ground. Those who question the commonly-received teachings about amusement are loudly accused of making concessions to the frivolous spirit of the time, or worse, of conspiring to break down the barriers and let in the floods of dissipation and vice. Some of them may be governed by such unworthy motives; but there are others who see, or think they see that the barriers are already well-nigh broken down, that the power of the churches over the young in this matter is nearly lost; and their solicitude for the welfare of the young people about them, and their desire to save these young people from the mischiefs of social dissipation have led them to inquire whether the received doctrine may not be unsafe and unsound.

The ethical code respecting amusement which has been most widely recognized and inculcated is the joint work of various ecclesiastical bodies. Presbyterians, Orthodox Congregationalists, Baptists, Methodists, Moravians, and others, in their representative assemblies, have gravely discussed the subject, laying down the law to the churches. Armed with these thunderbolts, the pulpits and the tract presses have resounded with denunciations until, in many quarters, public opinion has become very nearly unanimous in disallowing certain popular amusements. It might be doubted beforehand whether such assemblies as these are competent to settle the amusement question. The worthy men who composed them are to be credited, not only with good intentions, but with great learning and high character; but most of them have long ago put away childish things, and some have even forgotten that they ever had any childish things to put away. The training through which they have passed, and the course of life which they have felt it their duty to follow while in the ministry, have not been such as to give them any practical knowledge of the subject of The majority of them suppose amusements. that the practice of almost every kind of pastime is inconsistent with their profession, and it is natural enough that what they themselves abjure they should be slow to allow to others.

I confess that the picture of these venerable bishops and doctors and elders, with their silvery hair and their snowy neckcloths, sitting in solemn convocation to decide what pastimes are good for young folks and what are evil, wears to my eye a shade of comicality. No one can doubt that these excellent men are thoroughly qualified to discuss the philosophical principles underlying the whole subject of amusement; to show what uses sport and recreation are designed to subserve in the divine economy, and what general rules should therefore govern us in our practice of them. But this, which they are perfectly competent to do, and which is the very thing that most of all needs doing, is precisely the thing which they have left undone: and the thing for which they had no qualifications whatever, namely, the decision with regard to specific amusements, is the only thing they have tried to do. Men who never in their lives saw a figure danced, and who do not know spades from clubs, have declaimed from their pulpits and have voted in the assemblies against. cards and dancing. Here is one of the deliverances of these religious bodies:

"Resolved, That the fashionable amusement of promiscuous dancing is so entirely unscriptural, and eminently and exclusively that of the world which lieth in wickedness, and so wholly inconsistent with the spirit of Christ, and with that propriety of Christian deportment and that purity of heart which his followers are bound to maintain, as to render it not only improper and injurious for professing Christians either to partake in it or to qualify their children for it by teaching them the art, but also to call for the faithful and judicious exercise of discipline on the part of church sessions, when any of the members of the churches have been guilty."

Mr. Vincent tells of "an amiable and most excellent clergyman who happened to be present one evening when some young ladies went through a quadrille. He looked on with great apparent pleasure. The next morning he was rallied by some of his townsmen on having countenanced dancing by his presence; when he roundly denied the charge, and asserted that no dancing had taken place, but only, as he expressed it, a most beautiful exercise." Very likely this clergyman voted for that resolution.

Such indiscriminate and random denunciations by the clergy of things concerning which they had no knowledge have offended not only the lovers of amusement, but even the more considerate of the clergy themselves. Witness these words of Dr. James W. Alexander, a minister of the most straitest sect of orthodox Christians, and one to whom no suspicion of catering to frivolity could possibly attach:

"I am half afraid I am under some hallucination or morbid judgment, but for several years I have sickened at the common way of outcry against specific amusements; sermons and tracts anent them, etc.; in one view all the meetings of our unconverted hearers are frivolous, but are they worst when they are merriest? This is dangerous ground, and I suspect myself, but my error is corrigible, and it surely does not grow out of any disposition to practice on the light fantastic toe. I believe, however, that sourness, moroseness, censoriousness, malice, lust, envy, and two or three other things may cat as doth a canker in people who never danced."

In general, I think, three complaints may fairly be made against the teaching of the religious bodies on this subject.

In the first place, it has been wholly a ministration of condemnation. Many things have been disallowed, nothing has been approved. The churches have hardly ventured into this field, except to forbid and denounce. The impression has thus been given that all sport is sinful. It is true that the hard words of the doctors have all been said about three or four specific amusements, but there has been an ominous silence about all the rest which has intimated, more or less strongly, that in their judgment the rest are not much better. A grave suspicion lurks in the minds of many of the young people, that their religious guides and censors esteem all their frolics to be the ebullitions of a depraved nature. Is it too much to say that some such notion as this has been till recently quite generally entertained among Christian people? There has been no such article of faith in any of their confessions, but it has been the tacit assumption of most of those who were regarded as the leaders of religious opinion. A fondness for sport has been regarded as somewhat inconsistent with deep and thorough piety, and it was thought by many that those Christians who engaged only in the more orthodox pastimes in the most moderate way would be rather better Christians if they refrained from them altogether, and employed the time devoted to them in secluded meditation upon heavenly things. For what has been done toward the destruction of this dreary relic of Paganism we are indebted to Mr. Beecher more than to any body else on earth. His persistent good nature and his ready wit have scared away many of these goblins of darkness; and his clear vision has discovered much of the truth concerning the uses of sport and laughter in ministering to the health of the body and the

The second cause of dissatisfaction with the church teachings upon this subject lies in their utter disproportion. The evils growing out of

amusement are serious and worthy of reprobation, but they are not the only nor the greatest evils discoverable in Christian society. As Dr. Alexander suggests in the extract above quoted, there are habits and practices quite as prevalent and quite as fatal to spiritual growth as those with which the votaries of amusement are chargeable. And yet the stress of ecclesiastical denunciation has been laid upon the latter class of evils, while very little has been said about the former. The effect of this unfair discrimination has been most injurious. Many young persons who have said nothing have been greatly irritated by it. Those of us who can remember the impression which the anti-amusement teaching of our younger days used to make upon us know that, in spite of the respect with which we always regarded our spiritual teachers and our elders in the churches, it was sometimes borne in upon our minds that the mischiefs of Christian society did not all grow out of amusement; that there were faults not less serious than ours, and not less destructive of true piety, of which these our good mentors were by no means clear; that by ambition, ostentation, avarice, envy, and evil speaking, at least as many people were kept out of the kingdom of heaven as by "fashionable amusements," and that it was hardly fair for them to expend so much force in warring against the things which we enjoyed, and which they had no mind to, while the things they were inclined to were left unassailed. There lies before me as I write a full newspaper column of "resolutions," passed by different religious bodies against dancing and card-playing. Can any one show an equal number of bold words uttered by these religious bodies concerning traffic and its frightful immoralities, or concerning gossip and its deceitful asperities? Will any sane man deny that these evils last mentioned as well deserve rebuke as those others against which the pulpits have been thundering for the past twenty-five years? And if these things are so, do they not furnish one good reason why the prevalent teaching has failed, and why it needs to be reconsidered P

The third ground of complaint is in the fact that the denunciations and warnings of the ecclesiastical authorities have all been pointed at specific forms of amusement, rather than at the abuses connected with all amusement. Cards and dancing have been the marks at which most of this artillery has been aimed. Other amusements have sometimes shared in the condemnation, but these have been the chief objects of assault. Around these two pastimes the heat

of the controversy has raged. Multitudes of sermons and essays and tracts and newspaper articles have been written and published to prove that they are sinful and injurious. The great effort has been to keep young men and women from dancing and from playing cards. No one will deny that there have been many things to condemn in connection with these amusements. Serious abuses have crept into them; and our learned and devout fathers and brethren, looking on where they were practiced, or hearing from afar the sound of their goings, have seen and heard many things at which they had a right to be scandalized. But instead of condemning the mischiefs connected with these amusements, the leaders of religious opinion have expended all their force in creating a sentiment against the amusements themselves. So far as these specific pastimes have done harm, they have been effects, not causes-instruments, not agents. Certain evils, inseparable from human nature, have fastened upon them, and have wrought mischief through them. But to ascribe to the pastimes themselves these injurious results, is like blaming the windmill for the damage done by the gale. The social evils referred to are always insidiously at work, and there is need that they should be exposed and denounced; but the effect of the constant preaching about two or three particular amusements has not been to fix attention upon these evils, but to withdraw attention from them; and while the ministers have been arguing against dancing and card-playing, the abuses which had fastened upon them have attached themselves to other forms of amusement, and have stalked abroad unchallenged. Dancing, for example, is abused in dissipation. It is quite too common to prolong the social assemblies in which it is practiced far into the night. The charge has also been frequently made that it suggests impurity, and of certain forms of dancing this is probably true. These are the worst evils connected with this pastime. But when dancing has been entirely prohibited these evils have flourished without rebuke. In communities where a parlor quadrille would have been counted an abomination, the young people have been allowed, without protest, to waste the night in social dissipation-in the practice, too, of pastimes which were far more likely to suggest impurity than even the worst forms of dancing. The worst abuse of card-playing has been its perversion to the purposes of gambling; but while much has been said and done to make card-playing odious, gambling under other forms has been constantly increasing. The worst and

most popular form of gambling now practiced is that of which the lottery is the genus, and the raffle and the "gift-enterprise" are common species. The amount of money yearly squandered upon these promising schemes is tenfold greater than that staked upon the issue of games with cards. But very little effort has been made . by the churches to create a strong public sentiment against this prevalent vice. Its steady and alarming increase has provoked from the religious assemblies hardly the faintest remonstrance. I am sorry to say that this is not the worst of it. The churches are not in a position where they can safely denounce lottery gambling. Not only have they failed to bear witness against it, but they have even done what they could to make it respectable by means of the raffles of various sorts which have been so common in connection with religious fairs. All this has been done in brazen defiance of the statutes which make such enterprises punishable offenses, and in utter disregard of consistency. Churches that would discipline a young man for playing a quiet rubber of whist at home with his mother and sisters would very gladly sell the same young man a ticket in some religious raffle, and thus open wide the gates to the worst kind of gambling. When such facts as these are common, is any one surprised that the prevalent teaching concerning popular amusements has come to be rigidly questioned? The attempt to patch the old garment of Jewish asceticism with the new cloth of Christianity has resulted disastrously. We must find a method of treatment which shall be at once logical and less dangerous.

The truth must first be fairly recognized and clearly taught, that recreation-by which is meant not only the exercise of the body, but also the diversion of the mind-is a constant want of human nature, for which it is our duty to provide. Just in proportion as our amusements supply this want are they right and legitimate. They are not to be sought as ends in themselves; they are only to be used as a means of physical and spiritual health and growth. Not to have a good time while we live, but to live well—that is to be the end of living. Some degree of mirth and laughter, some indulgence in play and pastime are necessary to enable us to live well. We can not work as we ought to work, we can not worship as we ought to worship, if we do not sometimes play. Just as much play as will fit us to work most efficiently, and to worship most acceptably we ought to have. Less than this is not enough, more is too much.

To many persons these will seem to be commonplaces; to many others they will be daring and impious utterances. There are thousands of Christians in our American churches who are often sorely troubled in spirit because of the notion yet lingering in their minds that there is some degree of inconsistency between pastime and piety. They would not greatly enjoy a prayer-meeting to which they had come from a merry game of croquet. To them it would seem to be a most violent and unnatural transition. They would feel that the posture of penitence and confession was the only one proper for them under the circumstances. Such a feeling is evidence of a misguided understanding and a perverted conscience. These Christians must be made to believe that croquet, in its right place and in its due proportion, is not only innocent, but holy and acceptable to God; that it might even be the best possible preparation for the prayer-meeting, by withdrawing their thoughts from the distracting cares of worldliness, and by filling them with a cheerful and thankful spirit. The fact that many of those who read these words will be shocked by them only illustrates the point under discussion, and clearly shows the need that such words should be written.

There is reason to hope that a better philosophy will soon find place. As I write this paragraph a religious newspaper is laid before me, containing a report of the proceedings of a large and influential Christian assembly, before which an essay on amusements was read by a distinguished clergyman, "maintaining in an elaborate and able argument the following theses: that play is, in its place, as legitimate as work; that it is liable, through human imperfection, to be perverted in form and degree, like all other modes of human action; that amusements, equally with other parts of our conduct, must be so regulated as to illustrate Christian principle, and make a distinction between the Church and the world; that they must be dealt with, however, after the methods of offensive rather than of defensive warfare, and according to gospel liberty rather than legal asceticism; that the Church is responsible for a complete Christian civilization, and therefore bound to make positive provision for proper amusement; and that the transition character of the times and the involved nature of the problem require great wisdom and charity." These are wise and manly words. They are not spoken too soon; they can not be too often repeated.

But while we recognize the truth that recreation is necessary, and that amusement is right,

so far as it answers the ends of recreation, we must bear faithful witness against the fatiguing excesses and the demoralizing revelries which are constantly creeping into all forms of amusement. Heretofore we have been so anxious to make out a case against particular amusements, that we have overlooked all abuses not connected with them. Henceforth we must rebuke the evil wherever we find it. The habits of dissipation into which many of our young people are falling can not be too earnestly condemned. They who waste the hours of labor or the hours of sleep in sport must be made to feel the sacredness of the laws of life which they are violating. It will not do, however, to ignore the fact that other ruling passions besides the passion for amusement are making mischief in society; that the love of gain and the love of show and the love of place, equally with the love of sport, are blunting men's consciences and hardening their hearts. There must be no partiality in our treatment of social evils. There must be no blinking the fact that every age has its besetting sins. If we can not give to each class of sinners a portion in due season, we had better be sparing in our condemnation.

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But we must have something better than sound doctrine; we must have thorough and consistent practice. The time for speculation has passed; the time for action has come. Good men and women, who see the perils with which this department of life is environed, must enter into it, and rule it with a better wisdom. Parents must make liberal provision for the amusement of their children at home, and must show them how to use these things without abusing them. An ounce of example weighs more than a pound of precept. The separation of the old from the young in their sports has been most . unfortunate. It is better that they should share them together. Persons of mature years need the diversion quite as much as their juniors. And even if they did not need it, they must remember that they can not guard the sports against abuse without participating in them. In no other way can they preserve their influence with the young, and save them from the snares which await their feet. The good Book tells us of a coming time when the hearts of the fathers shall be turned to their children, and the hearts of the children to their fathers. May the glad day hasten!

Especially must the churches take hold of the principle and the practice of this matter with no timorous touch, but with the assured grasp of a hearty conviction. As the learned essayist has said, in the words quoted above: "The Church

is responsible for a complete Christian civilization, and therefore bound to make positive provision for proper amusement." The religion that neglects to provide for the cultivation of one large department of the human nature, and stands aloof, content to cast suspicion and condemnation upon every attempt to secure such cultivation, is a very stupid anachronism.

So far as the particular amusements are concerned, it would be vastly better if we could be silent concerning them. What we want is not so much discussion of specific cases as general principles which shall apply to all cases. But there has been so much casuistry on the other side, that it is sometimes necessary to descend to particulars. A vast amount of logical rubbish has accumulated about this question; and we can not make much headway without clearing it away. There is the Scripture argument against dancing, for instance; it is the merest sopbistry; it rests wholly on one or two assumptions, which no one but a pirate on the high seas of controversy would ever think of making; and yet some heads are troubled by it, and we must confer upon it the dignity of decent interment. An argument against several of the popular amusements of the day is also drawn from the abuses connected with them. In reply to this, it is necessary but not difficult to show that the argument proves too much. Not only every pastime, but every employment is liable to abuse; and as a matter of fact, some of those sports which are universally allowed are worse abused than those which are generally discountenanced. There are more evils connected with baseball and skating and dominoes, than with billiards and dancing and cards.

Another familiar argument is founded upon the alleged fascination of some of these pastimes. We are asked to believe that there is a kind of witchcraft about some of these sports; so that, when one becomes enamored of them it is impossible for him to quit them, or use them moderately. Of course, if the pastimes are good for any thing they will have some attractions for those who practice them. But the assertion, that there is any irresistible charm about dancing, or card-playing, or billiards, is simply absurd. A great part of the fascination which has attached to them has grown out of the prohibition of them. If they had not been forbidden fruit, there would not have been half so much hankering after them. It is very likely that there may be some weak-minded individuals who have such a penchant for some of these pastimes that they can not use them temperately. But the same thing is true of the sim-

plest games. A clergyman told me, not long ago, that he had so strong a passion for checkers that be could not play at all without excess. The confession was not very creditable to his moral stamina, but I presume it was true. However, these individuals with decrepid wills must not rule the world with their frailties. There are certain persons who can not eat honey. What then? Shall we forbid or discountenance the use of honey by those who find it both wholesome and palatable? The lesson of selfcontrol is always a difficult lesson; but it is no harder to learn in the play-ground than in the market or the court. And to tell young people that they can not learn, it is to make it probable they will not. The doctrine of unlimited babyism is not true, and harm is done by teaching it.

After these arguments are answered we may chance upon such a one as this, which I quote: "The test by which the sinfulness or innocence of any habit, practice, or amusement is to be judged, and accordingly to be indulged or discarded, is the inevitable tendency of its aggregate influence."

Here we have this whole philosophy boiled down, and its result is a stupendous solecism. The sentence quoted furnishes one of the most remarkable instances on record of the use of words to conceal, or rather to smother ideas. Does not this philosopher know that a tendency is not inevitable, and that an issue which is inevitable is not a tendency? A tendency may be strong, a result may be inevitable, but an inevitable tendency is something like a white black bird. If he means by "aggregate influence" to assert that hitherto there has been more of evil than of good connected with the amusements he discards, that is admitted; and the obvious reason is, that good people have withdrawn from them, leaving them in the hands of the vicious and the dissolute. Any pastime will share the same fate under the same treatment. If good people all stop playing the little game about Simon and his thumbs, and forbid it to their children, then we shall have it played only by bad people, in bad places, and amid vicious surroundings, and learned doctors will be lecturing us about the "inevitable tendency of the aggregate influence" of Simon's thumbs. The fact that certain amusements have been involved in mischief is not accounted for by the "tendency" or the "influence" of the amusements themselves, but by a law of human nature. And the question now before us is, whether these amusements, so long held as the stronghold of vice, shall be repressed in the interests of virtue.

This tendency argument is a very shallow, and sometimes a very wicked piece of sophistry. It is said, for instance, that card-playing leads to gambling. We are told that if a boy is taught to play cards for amusement, it is likely that he will become a gambler. The facts are that, of those who learn to play cards at home in respectable families, very few ever become gamblers. A large majority of the gamblers, who go down the dark way from the better circles of society, come out of houses where cards are never allowed. For every gambler who learned to play at cards with his parents and brothers and sisters, I will show you five who never were permitted the use of this pastime at home. Any individual who is not aware of the truth of this statement shows himself to be impervious to facts as well as principles. Moreover, there is no logical connection whatever between cardplaying and gambling. It is true that men sometimes bet on games with cards; so do they on ball-matches, and horse-races, and the time of the great pedestrians, but there is no more reason why they should bet on one of these that on the others. There is no more logical or natural connection between playing cards and gambling than there is between throwing a ball and gambling, or between driving a horse and gambling, or between walking on a turnpike and gambling. The distinction between the innocent use of such a pastime and the abuse of it in gambling is as clear as the distinction between light and darkness; and whoever ignores this distinction, or tries, by argument or innuendo, to cover it up, is doing his best to confound the moral judgment of those to whom he speaks. If there is any worse crime than that, I do not know the name of it.

Of course, we shall not get out of this casuistical controversy without hearing something about Paul, and the meat which he did not propose to eat. This meat of Paul's has been the

pièce de resistance of a certain class of reasoners so long that, to say the truth, it is getting rather stale. I am well aware that the possibilities of biblical misinterpretation are vast, but I doubt if any part of the sacred Book has ever been or will ever be worse perverted than this passage. Paul's refusal to eat meat was a voluntary concession to a prejudice. Certain persons thought it wrong for them to partake of meat which had been offered to idols; and therefore, Paul said that, for the sake of their consciences, he would abstain. But there was no attempt on the part of these weak brethren to impose this whim of theirs upon Paul. Suppose there had been. Suppose they had told Paul that he must not eat meat offered to idols; that if he did they would have no fellowship with him: that such conduct was unchristian: that to call men and women who ate meat offered to idols Christians was "a contradiction in terms, as much as to speak of humble fops, sober drunkards, and honest thieves" (that is what one religious body "resolved" about persons who dance); suppose they had assembled in synods and assemblies and conferences, all over the land, and had published resolutions against eating meat, with the evident intention of bringing every person who ate it into contempt and discredit—then what would Paul have said? I imagine we should have heard from him a manly assertion of his right to eat whatever is wholesome, and a sturdy denunciation of these brethren of the weak consciences, who would make their prejudices the law of his conduct. Happily we are left in no doubt of what his answer would have been. A comparison of the first three verses of the sixteenth chapter of the Acts of the Apostles with the first five verses of the second chapter of the letter to the Galatians will show exactly what Paul would have done in such a case.

The Glory and Shame of the Hair.

BY REV. CHARLES H. BRIGHAM.

THIS is a question to be decided by sex, if we may trust the Apostle Paul. He will have it that what is glory to the woman is shame to the man; that hair is the natural covering of the weaker sex, and so ought to be worn long, while it is a scandal for a man to appear in the solemn assemblies with flowing locks. He is followed in this judicial advice by the compa-

nies in our fashionable churches, where the damsels not only come weighted with all their own hair, but with a heavy mass which is not their own, while the youths by their sides come in fighting trim, with polls close cropped and shaven. There are few fashions which can not find warrant in the Holy Writ, and the fashion of wearing hair just now may use the Apostolio

permission as freely as tipplers used Paul's counsel to Timothy, or slave-drivers Paul's injunction to Philemon.

The hair is by no means the most important of bodily organs and appendages. It can be lost more safely than most of the other organs. We can do without it better than we can do without eyes, or without ears, or without teeth. If any part of the body is to be torn away, this may be spared sooner than the rest. Yet no bodily appendage is the subject of so many experiments, no part of the frame illustrates so well invention and fancy. The management of the hair is with one-half of the human race a prime interest of life, to which most others must yield. It is an interest of the savage and the civilized state, as important in the court of France as in the court of Ethicpia. "Queens of Society" are as much dependent upon their hair as those queens of the wigwam, who wear the most primitive of woven raiment. ·No work of human hands accomplishes more wonderful marvels of form than the slender threads as they are rolled and twisted. nothing are the caprices of fashion more arbitrary and its changes more rapid. This year it is frizzle upon the forehead, next year it may be cushion upon the hindhead, in the next year pendent curls, and in the next year, perhaps, braided pig-tails. Now it will show down and around the ears and cheeks a "shining shore" of hair polished into a dazzling mirror. And then it will lie around the skull in coils like those of the Indian cobra. Sometimes it is twined with golden piastres, and sometimes fastened in the meshes of a net. Sometimes it flows unchecked like a river in freshet, and then again it is dammed above the head in a solid and precipitous wall. Now it is contrived to hold rodents in its burrows, and now to hang threatening in arrested cataracts. It can imitate the horns of Moses in the modern sculpture, or the horns of Pan in the ancient sculpture. It is combed and cleansed only to be powdered and dusted with metallic dust. Some who are dainty in their hatred of a dusky skin torment their straight locks with imitation of the negro's wool. What infinite ingenuity, what endless thought, what wealth of appliances, what hours of the precious day, are everywhere spent in this work of keeping the hair up to the fashion, of training, binding, and torturing it into the mode of the season! And when the wicked gray begins to fleck its lines, and prophesies of a blossoming almond tree by and by, what care to hide this sign of years! Along with the phials of perfume are ranged the phials tha

hold to the hair its fading hues, or restore the colors which time is changing. And many a matron, who is careless of Paul's other words to the elder women, illustrates in the evening assemblies, as her hair is a wonder and delight, that line of Paul's epistle, "I protest, by your rejoicing, I die daily!"

With the other sex the fashion of wearing hair is less tyrannous and capricious. There are those whose hair shows no change from boyhood to age, except as it is cut from time to time, and bleaches into frost. It has always the same curve upon the forehead, always the same line of parting. Yet there are freaks of fashion which many men obey. Sometimes the hair must be worn long, as the Cavaliers wore it; sometimes it must be cropped in the style of the Roundhead. Now it is short before and long behind; and then it is long before and short behind. But if the hair of men is less liable to change in its order than that of women, fashion has its advantage in ordering the beard, that fatal gift of manhood which makes the barber a master of men. How much of the zeal of fashionable life is concentrated on this cut and curl of the beard. The Emperor of France is as proud of his moustache as of his imperial title, and twists it carefully for cabinet councils. A native Greek wears his badge of loyalty upon his upper lip, and swears by this as the Moslem swears "by the beard of my Father." A mutton-chop is found in perfection in an English inn, and the average aristocratic Englishman is known by his "mutton-chop whiskers." There are those who would show themselves kindred to the goat in their appendage to the chin, not mindful of Jewish tradition, or of the Christian judgment and sentence. Now the care of the beard consists in cutting it all away, in leaving on cheeks and chin and lips and throat no vestige of a hair; and then it envelops mouth and neck and breast in a volume of hair, like the mane of the Wanderoo, the pet baboon of King Solomon's court.

The way in which the hair is worn often decides the locality and nationality, still oftener the associations and tastes of the man. The Southern gentleman, before the war of the Rebellion, was known by his long locks; and these also have been the sign of the literary Bohemian as of the fanatical reformer. One of this class always warns his hearers that his speech will be odd and startling by the tangle of the fiery curls which hang from his long skull. Artists part hair in the middle, some say to look unlike other men, others because that is the "Christ style of the old painters." At one

time, when Judge Shaw was on the Supreme Bench of Massachusetts, and Rufus Choate was at the head of its bar, the young lawyers affected the unkempt and dishevelled style, and cultivated wild and straggling clumps of hair. Different colleges, too, have their styles, the Yale style is not that of Harvard, and West Point has its own. Every one knows what is the prison cut, how convicts are shaven and shorn. Then the Quakers have their style, and the Catholic priests their style. The tonsure, a bald spot on the back of the crown, distinguishes the Catholic man of God, as much as his robe or his hat. The Gypsies wear their hair in one way, the Swiss peasantry in another, the German Jews in still another. Nay, there are African tribes who adopt the model of the fretful porcupine, and train their hair to stand on end, bristling erect over the skull, as if electrified. The Yankee style brushes it upward and backward, giving to the head in this way a natural helmet, often as stiff and harsh to the eye as any helmet of brass or leather. The comparative hair-dressing of different ages and nations is an instructive study.

The barber's trade is very ancient. We find it in the time of the Hebrew kings, and even the patriarchs practiced shaving. The razor, as an implement, is almost as old as the axe, and the stubble of the hair was gleaned along with the stubble of the field. Razors were loaned for money among the Jews and the Assyrians. The exact scriptural type of the properly shaved head it is not easy to determine. If the Oriental custom of the present day faithfully repeats the Hebrew way, the barber's work was rather on the top of the head than on cheek and chin. That bald pate, which is so much dreaded by civilized Christians, is the sign of respectability and beauty in Cairo and Damascus. But it is by no means certain that the present Oriental custom represents the ancient custom. have no evidence that Solomon, or David, or Jacob, or Abraham, anticipated by their voluntary act the misfortune of Cicero and Cæsar. It was certainly the reproach of Elisha the Prophet that he was a "bald head;" has not the wicked mockery of those headless children been improved as a solemn warning of Divine wrath in Sunday-school addresses without number? Absalom certainly did not shave his head. man in all Israel so much as he was praised for his beauty. And at the end of every year when he poiled his hair it "weighed 200 shekels of the king's weight." What a fortune for him, if he had lived in our time! Samson, the hero of Philistine wars, was strong in his hair; when his locks were shorn, he could only play with the women, and had no force of arm or will. In the earliest time, the beard more than the hair fell under the razor, and the painters are probably right in showing us Adam as smooth faced as Eve by his side, But think of Adam bald, or with a head like the head of the American historical Adams!

A question of great interest in regard to hair is of color. What was the primitive color? What is the sacred color? What is the best color? Did Eve have red hair, or yellow hair, or black hair? What was the color of the hai of Meses? Are the painters right in giving black hair to Judas, while they show John an Paul with auburn ringlets? There is probably no good foundation for the prejudice that red hair is specially religious, or that the saints in light wear on their heads the flame which torments the wicked for ever. In spite of Raphael and Titian, we may believe that angels on earth are as angelic with raven hair as with hair of Teutonic huo. The best color of the bair is that which is natural, which consists with temperament, constitution, and complexion. No man can improve his hair by changing its natural color, by dying it black or red, and no woman adds to her beauty by altering the shado of her curls. A preacher, who hides his thin light hair under a heavy black wig and dyes his beard, may be eech the people never so eloquently, but his skin betrays him; they will see the lie hidden under that wig and he will never be the captain of their salvation. It is no better to preach literally under false colors than to pretend to be orthodox when one is heterodox. Any incongruity between the color of the skin and the color of the hair is felt as an evidence of general insincerity. And the effect is ludicrous when the Marguerite of Faust shows a dark skin under her yellow hair, or when a swarthy Hamlet storms under a flaxen wig.

Every color for hair is beautiful, if it is harmonious with the form and feature which it adorns. The "yellow-haired laddie" may be as handsome as Adonis, and even the Albino may have grace in a snowy poll. But it is in the hair is never pleasant to the eye. There are dyes that will leave as their residue, the tints of a faded rainbow, metallic shades, which are more fit for harlequin than for a decent head. In the application of foreign hair, too, the law of fitness is not universally observed. The "top knot" sometimes darkens a lighter braid which looks out from under it. If false hair is worn, the only apology for the cheat is that it is a Spartan fraud, and is done so well

as to escape detection. The ass in the lion's skin has his imitator in the traveled exquisites, who bring back from France such wealth and variety of fancy hairs, but withal speak French with the American twang. Old Isaac was sbrewd, and under the bairy hand he detected the hypocritical tone of his false son. An actor on the popular boards may need various colored wigs and whiskers, if he is to appear in all kinds of characters, but in the ordinary societies of men and women, it is better to have one color for the head, and that the color which Nature gave. Gray bair is right, when the time for it comes, be this sooner or later; it is right for woman as for man. The gray curls of Mrs. Stanton add to the charm of her matronly appeals, and help her youthful looks more than any metallic oxides. Why should white be a fit and bright color for the furs which are worn in ornament, but hateful in one's own hair?

No man certainly would grow old before his time, and it is good fortune when in age, the head can keep the show of youth, provided this show is honest and lawful. It is not well to become bald or gray before years of discretion are fairly reached. The longer the hair can be kept on the head the better, and the longer it can retain its natural color the better. The hair-dresser's art is a useful art, in spite of the abominations which it encourages. save these lucubrations about hair from being desultory and pointless, we may venture to suggest some rules in the care of the hair, of some rules which, if followed wisely and steadily, will supercede the necessity of such heroic remedies as not a few are driven to try. A reasonable care of the hair, which will consume only a few minutes of every day, will save much deepair, much mosning and groaning over this lost ornament and protection of the noblest part of the body.

1. Keep the hair clean. Wash it often. Clean it at the root and in the branch, in its mass and in its unravelling. Get all the dust out from it once, twice, or thrice, on every day. This is everywhere a timely advice. Even at sea the hair somehow catches floating particles, and the sea air will glue them close, if they are not at once removed. We are a nation of travelers, and no invention has yet made it possible to avoid the traditional dust of travel. A hundred miles of ordinary railway will fill the outer head as full of dust as the brain within is full of new pictures and images. Still worse is the stage-coach on the dry roads of summer. The hair is the most unwearied of dust collectors, more

indefatigable than a chifonnier of Paris, and obstinate in turning back to its work, however often it is cleansed. It needs very frequent and very thorough ablutions, in the evening and in the morning and at noon-time.

2. Then, in the second place, the hair, to be kept in good condition, should not only be washed freely, but stirred a good deal. It may do for a California miner to boast that no brush is needed in his toilet, and that his nimble fingers are all the comb that he finds use for, but the hair of civilized society ought to know the comb which divides as well as the comb which fastens. Possibly many make too much use of the comb, and irritate the skin while they loosen the hair; the zeal which gives two or three hours in the day to this combing and brushing, is certainly worse than waste of the time. But a good deal of brushing may be used with profit, enough at any rate to move the roots and make the growth healthier and more vigorous. It may be added, that every man should have his own implements for this industry, and that the hotel custom of communism in hair-brushes is only one degree more respectable than the public tooth-brush of Western steamboats. ious disease or cutaneous eruption may readily lurk in the well-worn brush which has done duty for months or years in the common room.

3. Another thing to say is, that unctuous substances are to be eschewed in the arrangement of the hair. The African men and maidens rejoice in polls that drip with grease, and wear more butter on their heads than they spread upon their bread. Nothing is gained for the health of the hair by imitating their custom. There is always the sense of disgust in coming near-to a larded human head, though the pomatum be costly, very precious ointment of spikenard which might be sold for three hundred pence. Ointment is better for wounds than for the hair. One may say, that in the Scriptures it seems to be commended. Did not the Saviour advise to anoint the head before prayer? And is not brotherly love likened to that superfluous flow of this precious grease, running down the beard of the High Priest, even to the skirts of his garments? In spite of these scriptural allusions, we may question the propriety of plastering and glossing the hair by any kind of oils. The unctuous head is not more agreeable than the oily tongue, from which flattering words glide insincerely.

4. Still more, are dyes of all kinds to be shunned by those who have respect to their hair. What-

ever change these may make in the color for the time, they destroy the hair more steadily and bring on sooner the fatal change. They not only show the man as half a humbug, whether he be a Preacher, a Senator, or a Major-General, but they hasten the decay of the very substance they would preserve, besides seriously endangering the general health. No one who uses hair dyes habitually, has a right to declaim against hypocrites or against drunkards, or against tight waists and tight boots. A Temperance lecture by a dyed orator is rather a farce than a moral homily, and suggests a ludicrous issue of the man's labors. There are specious advertisements in the journals, indorsed by certificates from clergymen sometimes, of the harmless preparations for preserving and restoring the hair, for covering again the bald head, for changing scanty into flowing locks; but all these promises are delusive, all these seductive remedies insure more disease than they cure. Rouge et noir for the hair is to be classed with the gambler's balls, which ruin far more victim's than they enrich. He who "dyes daily" will die daily in another sense, will ruin his brain in trying to save his hair.

5. With equal emphasis do we say, " Keep hot iron away from the hair." Curling-tongs are a weapon of Satan's device, as deadly as the pincers and thumbscrews of the Roman Inquisition. All the beauty of curls upon the forehead can not compensate the injury done by the drying and destruction of these delicate hair canals. Let the hair have its natural way, but do not try to force it into frizzle and corkscrew by any fiery art. It is cheery, perhaps, in a winter's morning to see the smoking necks of the horses resting from their gallop; but no man or woman ought to show the spectacle of smoking hair, the odor of which is its sufficient condemnation. Curl-papers for children may be telerated, but when it comes to hot tongs for the hair, the anathema should be quick, positive, and stern. In the light of modern physiology, those who give heed to the seducing spirit of fashion, and lend their head, to the hairdresser's curling skill, really get the fate which Paul foretells to his brother in the Lord, and have their conscience as well as their hair "seared with a hot iron."

6. And we may say further, that no more hair should be worn than will keep the head cool. It will not do to prohibit absolutely all false hair, to say that a bald pate shall never be covered by any thing but a hat or a cap. Wigs have been worn so long that they almost come

within the Roman formula of sound doctrine, "quod semper, quod ubique, quod ab omnibus." But the wigs which English barristers and judges pile upon their aching heads, the masses of hair, inlaid, in coil, in roll, in puff, which weigh down the belies of the modern ball-room, are an offence to good sense, good taste, and good health together. For the sake of the brain, if not for the sake of the hair, falsehood of this kind should not be piled too heavily upon the head. The appendage should never be hot or heavy enough to burn up the native growth.

7. And we shall add one more advice, " Do not tax the brain too severely, if you wish to keep the hair in good condition." Do not study too closely, or at improper hours. The brain reacts upon its outer covering. Sudden mental excitement will change the hair from black to gray in a few hours, and continued application will cause the hair to drop out long before its proper time Early baldness is usually hereditary, but it is also the result of unwise habits in the use of the The ardent Trask will say that it comes brain. from tobacco, and the apostles of Temperance will discover that strong drink ruins the hair, as it ruins all the rest of the man. It is possible that a too earnest concentration of thought on this important business of arranging the hair, may spoil the very material on which it so sedulously works, and that one who thinks of nothing else may lose his hair and his wits together.

It is quite likely that these suggestions, and indeed, the whole tone of this essay, may seem undignified. Yet those sermons of the third and fourth centuries, of Tertullian, Cyprian, Chrysostom, and the rest, which had so much to say about hair, only kept close to the word of Prophets and Apostles. Isaiah was severe upon "crisping pins," and the story of Jezebel illustrates the fate of those who spend much time upon hair-dressing. It can not be trivial to notice what holds so much of the heed and the anxiety, the joy and the pain, of men and women in this world. The bair-dresser for not a few in the cities, has a half priestly office, and holds the key of the Church, if not the key of the kingdom of Heaven. Can a fair devotee enjoy her religion in Grace Church, if her hair is not arranged for the solemn service? Can she pray in the spirit and with the understanding, if the proper unction has not been given to her bowed head? Can the Spirit write upon the tables of her heart, if she has not brought to the sanctuary her "head-bands and tablets?"

OUR STUDIES IN PHYSIOLOGY.

SIXTH STUDY, *

SOURCES OF LOSS AND GAIN TO THE BLOOD.

AVING traversed the ultimate ramifications of the arteries, the blood, as we have seen, enters the capillaries. Here, the products of the waste of the tissues constantly pour into it; and, as the blood is everywhere full of corpuscles, which, like all other living things, decay and die, the results of their decomposition everywhere accumulate in it. It follows that, if the blood is to kept pure, the waste matters thus incessantly poured into or generated in it, must be as constantly got rid of or excreted.

Three distinct sets of organs are especially charged with this office of continually excreting carbonic acid, water, and urea. They are the lungs, the kidneys, and the skin. These three great organs may therefore be regarded as so many drains from the blood—as so many channels by which it is constantly losing substance.

Further, the blood, as it passes through the capillaries is constantly losing matter by exudation into the surrounding tissues.

Another kind of loss takes place from the surface of the body generally, and from the interior of the air-passages and lungs. Heat is constantly being given off from the former by radiation, evaporation, and conduction; from the latter chiefly by evaporation.

The blood which enters the liver is constantly losing material to that organ; but the loss is only temporary, as almost all the matter lost, converted into sugar and into bile, re-enters the current of the circulation in the liver itself, or elsewhere.

Again, the loss of matter by the lungs in expiration, is partially made good by the no less constant gain which results from the quantity of oxygen absorbed at each inspiration; while the combustion which is carried on in the tissues, by means of this oxygen, is the source not only of the heat which is given off through the lungs, but also of that which is carried away from the general surface of the body. And the loss by exudation from the capillaries is, in some degree, compensated by the gain from the lymphatic and ductless glands.

In the instances just mentioned the loss and

gain are constant, and go on while life and health last. But there are certain other operations which cause either loss or gain to the blood, and which are not continuous, but take place at intervals.

These sie, on the side of loss, the actions of the many secretory glands, which separate certain substances from the blood at recurrent periods, in the intervals of which they are quiescent.

On the side of gain are the contractions of the muscles, which, during their activity, cause a great quantity of waste materials to appear in the blood; and the operations of the alimentary canal, which, for a certain period after food has been taken, pour new materials into the blood.

Under some circumstances the skin, by absorbing fluids, may become a source of gain.

The sources of loss and gain to the blood may be conveniently arranged in the following tabular form—

- A. INCESSANTLY ACTIVE SOURCES OF LOSS OR GAIN TO THE BLOOD.*
- a. Sources of loss.
 - I. Loss of matter.
 - 1. The lungs.
 - 2. The kidneys.
 - 3. The skin.
 - 4. The liver.
 - 5. The tissues generally.
 - Il. Loss of heat.
 - 1. The free surfaces of the body.
- b. The sources of gain.
 - I. Gain of matter.
 - 1. The lungs.
 - 2. The liver.
 - The spleen, ductless glands, and lymphatic system.
 - 4. The tissues generally.
 - II. Gain of heat.
 - 1. The blood itself and the tissues generally.

^{*}Our Studies in Physiology are condensed from Prof. T. H. Huxley's English works, not published here.

^{*}The learner must be careful not to confound the losses and gains of the blood with the losses and gains of the body as a whole. The two differ in much the same way, as the internal commerce of a country differs from its export and impor trade.

- B. Intermittently active Sources of Loss on Gain to the Blood.
- a. Sources of loss.
 - 1. Many secreting glands.
- b. Sources of gain.
 - 1. The muscles.
 - 2. The alimentary canal.
 - 3. The skin.

In the preceding Study I have described the operation by which the lungs withdraw from the blood much carbonic acid and water, with a fractional quantity of urea, and supply oxygen to the blood; I now proceed to the second source of centinual loss, the kidneys.

The excretion of nitrogenous waste and water, with a little carbonic acid, by the kidneys, is strictly comparable to that of carbonic acid and water, with a little urea by the lungs, in the air cells of which carbonic acid and watery vapors are incessantly accumulating, to be periodically expelled by the act of expiration. But the operation of the renal apparatus differs from that of the respiratory organs, in the far longer intervals between the expulsory acts; and still more in the circumstance that, while the substance which the lungs take into the body is as important as those which they give out, the kidneys take in nothing.

An average healthy man excretes by the kidneys about fifty ounces, or 24,000 grains of water a day. In this are dissolved 500 grains of urea, but not more than ten to twelve grains of uric acid.

The amount of other animal matters and of saline substances, varies from one-third as much to nearly the same amount as the urea. The saline matters consist chiefly of common salt, phosphates and sulphates of potash, soda, lime, and magnesia. The gases are the same as those in the blood—namely, carbonic acid, oxygen, and nitrogen. But the quantity is, proportionally, less than one-third as great; and the carbonic acid is in very large, while the oxygen is in very small amount.

It will be observed that all the chief constituents of the urine are already contained in the blood, and indeed, it might almost be said to be the blood devoid of its corpuscles, fibrin, and albumen. Speaking broadly, it is such a fluid as might be separated from the blood by the help of any kind of filter which had the property of retaining these constituents and letting the rest flow off. The filter required is found in the kidney.

The blood which supplies the kidneys is brought directly from the aorta by the renal

arteries, so that it has but shortly left the heart. The venous blood which enters the heart, and is propelled to the lungs, charged with nitrogenous, as well as with the other products of waste, loses only an inappreciable quantity of the former in its course through the lungs; so that the arterial blood which fills the aorta is pure only as regards carbonaceous waste, while it is impure as regards urea and uric acid.

In the healthiest condition, the walls of the minute renal arteries and veins are relaxed, so that the passage of the blood is very free; and but little waste arising from muscular contraction in the walls of these vessels, is thrown into the renal blood. And as the urine which is separated from the renal blood contains proportionately less oxygen and more carbonic acid than the blood itself, any gain of carbonic acid from this source is probably at once counterbalanced. Hence, so long as the kidney is performing its functions properly, the blood which leaves the organ by the renal vein, is as bright a scarlet as that which enters it by the renal artery. Strictly speaking, it is the purest blood in the body, careful analysis having shown that it contains a sensibly smaller quantity of urea and of water than that of the left side of the heart. This difference is, of course, a necessary result of the excretion of the urinary fluid from the blood as it travels through the kidney.

As the renal veins pour their contents directly into the vena cava, it follows that the blood in the upper part of this vein is far less impure or venous, than that contained in the inferior vena cava, below the renal veins.

Irritation of the nerves which supply the walls of the vessels of the kidney has the immediate effect of stopping the excretion of urine, and rendering the renal blood dark and venous.

That the skin is a source of continual loss to the blood may be proved in various ways. If the whole body of a man or one of his limbs be inclosed in a caoutchouc bag, full of air, it will be found that this air undergoes changes which are similar in kind to those which take place in the air which is inspired into the lungs. That is to say, the air loses oxygen and gains carbonic acid; it receives a great quantity of watery vapor, which condenses upon the sides of the bag, and may be drawn off by a properly disposed pipe; and a minute quantity of urea accumulates upon the surface of the limb or body.

Under ordinary circumstances no liquid water appears upon the surface of the integument, and the whole process receives the name of the insensible perspiration. But, when violent exercise is taken, or under some kinds of mental emotion, or when the body is exposed to a hot and moist atmosphere, the perspiration becomes sensible; that is, appears in the form of scattered drops upon the surface.

The quantity of sweat or perspiration, varies immensely, according to the temperature and other conditions of the air, and according to the state of the blood and of the nervous system. It is estimated that, as a general rule, the quantity of water excreted by the skin is about double that given out by the lungs in the same time. The quantity of carbonic acid is not above one-thirtieth or one-fortieth of that excreted by the lungs. The precise quantity of urea excreted is not known.

In its normal state the sweat is acid, and contains fatty matters, even when obtained free from the fatty products of the sebaceous glands. Ordinarily, perspiration, as it collects upon the skin, is mixed with the fatty secretion of these glands; and, in addition, contains scales of the external layers of the epidermis, which are constantly being shed.

In analysing the process by which the perspiration is eliminated from the body, it must be recollected, in the first place, that the skin, even if there were no glandular structures connected with it, would be in the position of a moderately thick, permeable membrane, interposed between a hot fluid, the blood, and the atmosphere. Even in hot climates the air is, usually, far from being completely saturated with watery vapor, and in temperate climates it ceases to be so saturated the moment it comes into contact with the skin, the temperature of which is, ordinarily, twenty or thirty degrees above its own.

A bladder exhibits no sensible pores, but if filled with water and suspended in the air, the water will gradually ooze through the walls of the bladder, and disappear by evaporation. Now, in its relation to the blood, the skin is such a skin full of hot fluid.

Thus, perspiration to a certain amount must always be going on through the substance of the integument; but what the amount of this perspiration may be can not be accurately ascertained, because a second and very important source of the perspiration is to be found in what are called the sweat-glands.

All over the body the integument presents minute apertures, the ends of channels excavated in the epidermis or scarf-skin, and each continuing the direction of a minute tube, usually about one three-hundredth of an inch in diameter, and a quarter of an inch long, which is imbedded in

the dermis. Each tube is lined with an epithelium continuous with the epidermis. The tube sometimes divides, but, whether single or branched, its inner end or ends are blind, and coiled up into a sort of knot, interlaced with a meshwork of capillaries.

The blood in these capillaries is therefore separated from the cavity of the sweat-gland only by the thin walls of the capillaries, that of the glandular tube and its epithelium, which, taken together, constitute but a very thin pellicle; and the arrangement, though different in detail, is similar in principle to that which obtains in the kidney.

The number of these glands varies in different parts of the body. They are fewest in the back and neck, where their number is not much more than four hundred to a square inch. They are more numerous on the skin of the palm and sole, where their apertures follow the ridges visible on the skin, and amount to between two and three thousand on the square inch. At a rough estimate, the whole integument probably possesses not fewer than from two millions and a quarter to two millions and a half of these tubules, which therefore must possess a very great aggregate secreting power.

The sweat-glands are greatly under the influence of the nervous system. This is proved, not merely by the well-known effects of mental emotion in sometimes suppressing the perspiration and sometimes causing it to be poured forth in immense abundance, but has been made a matter of direct experiment. There are some animals, such as the horse, which perspire very freely. If the sympathetic nerve of one side, in the neck of a horse, be cut, the same side of the head becomes injected with blood, and its temperature rises; and simultaneously, sweat is poured out abundantly over the whole surface thus affected. On irritating that end of the cut nerve which is in connexion with the vessels, the muscular walls of the latter, to which the nerve is distributed, contract, the congestion ceases, and with it the perspiration.

The amount of matter which may be lost by perspiration, under certain circumstances, is very remarkable. Heat and severe labor, combined, may reduce the weight of a man two or three pounds in an hour, by means of the cutaneous perspiration alone; and as there is some reason to believe that the quantity of solid matter carried off from the blood does not diminish with the increase of the amount of the perspiration, the quantity even of urea which is eliminated by profuse sweating may be considerable.

The difference between the blood which is coming from, and that which is going to the skin, can only be concluded from the nature of the substances given out in perspiration; but arterial blood is not rendered venous in the skin.

It will now be instructive to compare together in more detail than has been done, the three great organs—lungs, kidneys, and skin—which have been described.

In ultimate anatomical analysis, each of these organs consists of a moist animal membrane separating the blood from the atmosphere.

Water, carbonic acid, and urea pass out from the blood through the animal membrane in each organ, and constitute its secretion or excretion; but the three organs differ in the absolute and relative amounts of the constituents the escape of which they permit.

Taken by weight, water is the predominant exerction in all three; most solid matter is given off by the kidneys; most gaseous matter by the lungs.

The skin partakes of the nature of both lungs and kidneys, seeing that it absorbs oxygen and exhales carbonic acid and water, like the former, while it excretes urea and saline matter in solution, like the latter; but the skin is more closely related to the kidneys than to the lungs. Hence when the free action of the skin is interrupted, its work is usually thrown upon the kidneys, and vice versa. In hot weather, when the excretion by the skin increases, that of the kidneys diminishes, and the reverse is observed in cold weather.

This power of mutual substitution, however, only goes a little way; for if the kidneys be extirpated, or their functions much interfered with, death ensues, however active the skin may be. And, on the other hand, if the skin be covered with an impenetrable varnish, the temperature of the body rapidly falls and death takes place, though the lungs and kidneys remain active.

The liver is a constant source both of loss, and in a sense of gain to the blood which passes through it. It gives rise to loss, because it separates a peculiar fluid, the bile, from the blood, and throws that fluid into the intestine. It is a source of gain, if not in quantity, at any rate in kind of matter, because it elaborates a substance, glycogen, which is capable of passing very readily into a kind of sugar, called glucose, and is carried off, in one shape or another, by the blood. Finally, it is probable the liver is one source of the colorless corpuscles of the blood.

The liver is the largest glandular organ in the body, ordinarily weighing about fifty or sixty ounces. It is a broad, dark, red-colored organ, which lies on the right side of the body, immediately below the diaphragm, with which its upper surface is in contact, while its lower surface touches the intestines and right kidney.

The nature of these active powers, so far as the liver is a source of loss to the blood which traverses it, is determined by ascertaining—

- a. The character of that fluid, the bile, which incessantly flows down the biliary duct, and which, if digestion is not going on, and the passage into the intestine is closed, flows back into and fills the gall-bladder.
- b. The difference between the blood which enters the liver and that which leaves it in respect of the constituents of the bile.
- a. The total quantity of bile secreted in the twenty-four hours varies, but probably amounts to not less than from two to three pounds. It is a greenish yellow, slightly alkaline fluid of extremely bitter taste, consisting of water, with from seventeen per cent. to half that quantity of solid matter in solution. The solids consist chiefly of a resinous substance, composed of carbon, hydrogen, oxygen, nitrogen, and sulphur, which exists in combination with soda. This biliary matter or bilin, may be separated by chemical processes into two acids, called the Taurocholic (which contains all the sulphur) and the Glycocholic; and it is consequently said to be a combination of taurocholate and glycocholate of soda. Besides this bilin, its chief constituent, the bile contains a crystalized fatty substance, cholesterine, together with a peculiar coloring matter which contains iron and is probably related to the homatin of the blood.
- b. Of these constituents of the bile the water, the cholesterine, and the saline matters alone, are discoverable in the blood; and, though doubtless some difference obtains between the blood which enters the liver and that which leaves it, in respect of the proportional quantity of these constituents, great practical difficulties lie in the way of the precise ascertainment of the amount of that difference. The blood of the hepathic vein, however, is certainly poorer in water than that of the portal vein.

As the essential constituent of bile, bilin, is not discoverable in the blood which enters the liver, it must be formed at the expense of the tissue of that organ itself, or of some constituent of the blood passing through it. However this may be, it is a very curious circumstance that, as almost all the bile which is poured into the intestines is re-absorbed by the vessels in their walls, it must, in some shape enter the liver a second time with the current of the portal blood.

EDITORIAL DEPARTMENT.



NEW YORK, JUNE, 1870.

WATER.

"To the days of the aged it addeth length; To the might of the strong it addeth strength; It freshens the heart, it brightens the sight; 'Tis like quading a goblet of morning light.'

THE PUBLISHERS do not hold themselves as indorsing every article which may appear in THE HERALD.

They will allow the largest liberty of expression, believing that by so doing this magazine will prove to be more useful and acceptable to its patrons.

Ex Exchanges are at liberty to copy from this magazine by giving due credit to THE HERALD OF HEALTH AND JOURNAL OF PHYSICAL CULTURE.

TOPICS OF THE MONTH.

BY M. L. HOLBROOK, M. D., EDITOR.

A New Signal of Long Life.—Who would not welcome the discovery of a hitherto secret sign, placed by the Maker on this wonderful patented machine, the human body, and revealing a true answer to the tremendous question, How long will it last?

We will not stay to inquire whether such precise and sure knowledge about one's own mortal term would be pleasant to the soul in all cases; but it is a sort of knowledge that nearly every person would like to get hold of, and would be driven to get hold of, if he could, by the whip of an irresistible curiosity.

Is there any token about the body, or inside the body, which can tell a man how many years he is good for in this world, provided he behaves himself properly?

We are not about to answer this in the affirmative; and yet we are almost authorized to do so.

For, at the last annual session of the British Scientific Association, held at Exeter, two very startling papers were read by a distinguished physician Sir Duncan Gibb; and by these papers some very astonishing facts were communicated which show that the wise ones are at least approaching the discovery of a new test-signal of vital endurance.

The first of Sir Duncan Gibb's papers was entitled "An Obstacle to Human Longevity." He began by describing the leaf-shaped cartilage at the back of the tongue, which covers the aperture of the wind-pipe and is known as the epiglottis. Sir Duncan stated that circumstances having led him to suspect the posture of this organ of certain very important indications as to longevity, he had taken pains to make very extended observations. He had personally looked into the throats of five thousand persons for this particular purpose; and he had found that of these five thousand persons, all being healthy and of various ages, 11 per cent. had the epiglottis drooping or pendent, in place of being vertical. By a very wide range of induction he had come to the conclusion that if a person's epiglottis was pendent, the proprietor of the same need not count on any experience of the joys or sorrows of extreme old age. The facts which he rehearsed in support of this theory were very numerous, curious, and impressive. He had observed that in all persons over 70 the epiglottis is vertical, without a single exception-a circumstance of the highest importance, as bearing upon the attainment. of old age among the Europeans and their descendants in America. He related many instances where the age varied from 70 to 95;

and, in all, this cartilage was vertical. Many of these cases were of persons greatly renowned in the present century, such as Lord Palmerston, Lord Lyndhurst, Lord Campbell, and Lord Brougham. Sir Duncan had personally peeped between the noble jaws of these illustrious statesmen and lawyers; and he was able to account for their being the hale and hearty old fellows they were by the circumstance that the attitude of the epiglottis was, in every case, just what it should be. He likewise gave instances among old ladies still alive at ages from 70 to 92, whose epiglottis is vertical. This last fact, we confess, seems to us startling in more ways than one. Indeed, the more we think of it, the more amazing it becomes. Here is an instance of feminine presumption that ought not to pass without comment! What business had these old ladies with a vertical epiglottis apiece, just as if they had all been lords of creation. Even Physiology is getting demoralized by these modern reforms; and Anatomy itself permits such an arrogant display of Woman's Rights as a bevy of aged dames all having a full equipment of vertical epiglottises!

But, to return from this digression into which we were driven by the natural warmth of indignant feeling; Sir Duncan proceeded to give other instances, and among them that of a gentleman still alive, 102 years old, whose epiglottis was in the position to be expected from the foregoing theory.

After setting forth elaborately the facts that were included in his observations, he summed up his views in the following conclusions:

1. As a rule, persons with a pendent epiglottis do not attain a longevity beyond 70. Of course, he did not deny that there are persons beyond 70 with a pendent epiglottis; for he had not looked into the mouths of all the old ladies and gentlemen in the world. It, therefore, was not competent for him to assert positively how the matter stood with them. But he had examined hundreds of cases of people above 70, and not one of them had a pendent epiglottis; and this entitled him to the belief

that it was very improbable that a person whose epiglottis was pendent could get beyond that period of life.

- 2. With pendency of the epiglottis life verges to a close at or about 70, and the limit of old age is reached.
- 3. A vertical epiglottis on the other hand, allows of the attainment of four-score years and upward, all other things being equal, and affords the best chance of reaching the extremest limits of longevity.

The learned baronet afterward read his second paper on "A Cause of Diminished Longevity beyond 70 Years." As will appear, this paper is only supplementary to the former one. He stated that a considerable portion of the Jewish race possess a physiognomy which he described as sanguinec-oleaginous, which we suppose is only a learned way of saying that the average Jew face is "bloody greasy." However, we decidedly prefer Sir Duncan's phrase, because, though it is not quite so plain and vernacular as ours, it is more polite.

Well, he proceeded to say that this sanguineooleaginous expression of the Hebrew countenance was "characterized by varying degrees of flushed color, sleepy aspect, greasy look, guttural or husky voice, and fullness of body." The best examples of the class are to be seen in the furniture auction-rooms of London; and, we could add, for New York, in the elegant marts of personal habiliments passing through the. secondary or tertiary stages of their existence. Now, we do not know whether any of our readers have ever been so hapless as to fall into the hands of these London furniture dealers, or of these New York venders of aged and decayed clothing. But if any of them have had this experience, they have, of course, been miserably cheated; and perhaps it will be a balm to their spirits to be assured, on the high authority of Sir Duncan Gibb, that the most of these griping Jews, with sanguineo-oleaginous visages, have the epiglottis pendent rather than vertical, and consequently that they will surely be cut short in their careers of fraud and greed at the untimely age of 70.

Here, once more, we may pause and admire the wisdom and benignity of Providence! Society is under the august protection of physiological law! How terrible it would be if these Jewdealers in old furniture and old clothes, with their dreadful sanguineo-oleaginous countenances, had been endowed with vertical epiglottises instead of pendent ones, and thus had been suffered to prey upon society for more than seventy years each!

We are confident that all our readers, who have a proper sense of retributive justice, and who may have been innocent sufferers by the extortion and rapacity of Hebrew merchants, will feel a sort o exhilaration in knowing further what Sir Duncan Gibb has said about them: "As a rule, longevity is rare among such persons, for they are liable to those diseases of a congestive character which influence the heart, brain, and liver. The main cause of all this is eating food, especially fish, cooked in oil, which tends to the destructive formative processes in the system, and induces old age before the prime of life is reached, although the individual may appear to be the personification of good health from his weight, size, and color."

All this is very consoling; but Sir Duncan seemed resolute about making our cups to run over with happiness. Lest any one might have failed to perceive the application of the foregoing sentence to the Jew traders, he adds, with solemn tone: "Pendency of the epiglottis, associated with the sanguineo-oleaginous expression, is of serious import!"

The next time you pass the Jew store and behold its terrible proprietor looking so hearty and immortal, think of that sentence—and be happy!

In conclusion, we would say to every friend of ours, Look out for your epiglottis! It is verily the *index longevitatis*.

Here, too, is a hint to Life Insurance Companies, which they will not fail to appreciate.

Moreover, who can tell how this valuable discovery by Sir Duncan Gibb may revolutionize human manners; for just as people now look into horses' mouths to see how old they are, presently they will be looking into men's mouths to see how old they are going to be!

Insane Murdeners.—As we send the June HERALD to press, the trial of McFarland, for the murder of Richardson, is concluded. The verdict of the jury is, " Not Guilty." Judging from the evidence, this conclusion could not have been reached on any other ground than that of the murderer's insanity. Although every possible effort was made to prove it, yet there was not a shadow of evidence of any guilt on the part of Richardson or Mrs. McFarland which could justify the murder. Those who know either party knew this before the trial, quite as well as since. McFarland, on the other hand, though proved to be insane, was also proved to be a base, cowardly assassin. According to law he could not be convicted, simply because an insane murderer is not a responsible person. And here is where we complain of the law. If McFarland was insane, the probability is that he is insane still, and ought to be so treated, rather than set loose to commit other murders, as he very likely may. Are not insane murderers more dangerous to society than any other? Barbarous it is to hang them, to treat them brutally, but let there be a prope place of confinement for all such, where they can receive medical treatment and such care as they need. We earnestly hope this subject will receive the attention of legislators at an early day.

There is one more point connected with this trial, to which we wish to allude. 'The counsel for the defense seemed to think it necessary, in order to make out his case, to blacken the characters of a number of pure and noble persons, persons whom he can never be worthy enough to touch their cast off clothing. In the name of morality and decency we protest against this. If justice can not be secured without a resort to injustice, le' it never be sought. Better, a thousand times, a wrong should go unpunished, than that punishment should be brought about through additional crime. And when, as in this case, the in-

justice was done to prevent the ends of justice, the case becomes a hundred times worse. The vile calumny which has been heaped upon the murdered man and his widow, has been too mean to tolerate among people who love justice. May we not hope that the reaction will be in favor of right, which is a most difficult thing to obtain in criminal trials!

ANIMAL FOOD.—Mr. Brinkloe, Publisher of The Gardener's Monthly, of Philadelphia, sends us the following:

"To the Editor of The Herald of Health: The papers at present seem to be much concerned upon the matter of Hygiene and Health. We read in one that one sister starved another to death on graham bread, potatoes, rice, fruit, etc.; in another, that we do not eat near enough cheese, as it is just as digestible as beef or mutton, and supplies, chemically, the necessary constituents to the system.

The gross ignorance which is exhibited in this nineteenth century upon this subject would be excusable were it not that its devotees shut their eyes against all truth, and blindly follow blind guides when both tumble into the ditch.

Having given this subject much study and observation, a few hints, while they may not be new, may be interesting to your readers, as we all like to see new evidence in support of some favorite field of investigation or theory. Without knowing it, I had discovered an important fact -that the food taken into the stomach does not undergo a chemical action to make it fit for food for the system, but that it is by assimilation. And this fact has opened to my mind others no less important, among which is the fact that the system will not assimilate poisons, fatty matters (carbon), or even an excess of any one kind of food, if in a healthy condition. As an evidence of this, we may note the growth of the fatty matters in animals, which are undoubtedly poisonous secretions, and which are held in suspense by the system in that form to prevent injury to the tissues and nerves, and which after death grows hard and may be separated from the real flesh. In no case do we ever find the real flesh

to become a part of the fat, or the fat to assimilate with the flesh. This being so, it is evident that in fat persons or animals, the secretion bas been formed either by taking poisons direct, or by eating food which would not assimilate. Again, I have discovered that to animal food may be attributed nearly every disease that flesh is heir to, and have demonstrated still another fact, that all contagious diseases are parasitic and fungoid, either in the form of trichinia or spores of fungus, and that for their action they must have a weakened vitality, either from disease or exhaustion. And there is no more fertile means of producing exhaustion than by animal food. We all know that if meat is left in a warm place that it soon putrifies and becomes a mass of living organisms, and, if taken into the stomach and not digested, it becomes a mass of corruption, ready to receive the spores of any fungus which may be floating in the atmosphere. Or, should it be prevented from so doing by stimulants or condiments, it only becomes, like themselves, a part of the poisons which form the fatty secretions. Again, knowing that although vegetable matters decay, we also know that, unless joined with other substances, there is not that heat or condition which favors fungus or parasitical growth, or at least such funguses or parasites as attack animal bodies. We may with impunity eat a rotten apple, peach, or pear, but we can not eat putrified meat or fish without nausea and poisonous effects. And as meats are formed principally of carbon or fatty matters, and will not assimilate, they clog up the system, keep it constantly irritated, and consequently debilitated. Vegetables, being composed in great part of soluble juices, are easily digested, and, if not taken up by the system, soon pass off without doing much harm, if they have done no good.

These few hints may set others to thinking, at any rate, let us hope so."

ILLNESS OF PROF. AGASSIZ.—We are sorry to find that Prof. Agassiz does not yet recover his health. The papers announce that he is threatened with softening of the brain, and

that his only hope is in perfect quiet. The cause is, of course, reported to be overwork. It is not long since the world was startled by the announcement of Prof. Agassis, that brainworkers would find a diet of fish valuable in keeping up the vigor of the brain. Must we believe that the great savan was mistaken? We fear that the enormous number of cigars he is known to use, and the wine that finds its way to his brain, may have something to do with his troubles.

More about our Medical Hyenas.—
In former numbers of this magazine we have spoken our mind freely concerning those two-footed male creatures who study medicine in this city and in Philadelphia, and who during the past winter have lent so striking a confirmation to the Darwinian theory, that men are only developments of brutes. In the case of the objects now referred to, it may be doubted whether in fact the development from the brute state has proceeded very far.

We have some personal knowledge of these medical students; and we have some personal knowledge of hyenas. Precisely what difference, if any, there is between them, we do not feel prepared to state. We might say outright that the medical students are hyenas; and, perhaps, the medical students will reply that they don't care if we do call them hyenas. Very true; and there is no reason why they should care; but how will the hyenas feel about it? On the whole, the hyenas are the only parties that could prosecute us for libel.

After all, no epithets are half so damning as the simplest narrative of facts. Take, by way of sample, the following account, which is copied from The Philadelphia Ledger, dated February 8th:

"On Saturday last, for the first time in the history of the Pennsylvania Hospital, a large class of female medical students attended the valuable clinical lectures at that institution. These ladies are mainly, and perhaps exclusively, students of the 'Women's Medical College,' 1935 North Collego Avenue, a meritorious

institution, to which we have several times invited attention through these columns. There were twenty-seven of them present at the Hospital Clinic, on Saturday morning, attending the lectures of Drs. Da Costa and Hunt. The fact is noteworthy as an interesting event in the history of our Philadelphia medical schools; but in addition to that, there is a necessity for comment on the occurrences after the lectures were over and the classes were dismissed. Between 200 and 300 male students, by a concerted plan, and in spite of the efforts of the managers of the hospital to preserve order, ranged themselves so as to occupy both sides of the whole of the footwalks inside of the hospital inclosure, which compelled the twenty-seven lady students to take the cartway, and thus pass between the double lines of the male students, while the latter saluted them with taunts and jeers, mock applause, and real hisses."

While this exquisite scene was in progress in Philadelphia, another one, in some respects even more exquisite, was going on in New York. A party of lady students, some of whom are personally known to ourself as ladies indeed, and all of whom are regularly accredited as pupils in medicine, were duly admitted to attend lectures in Bellevue Hospital. They took their seats in a lady-like way, and endeavored to give respectful audience to the lecturer. Whereupon, the hyenas gathered close around them, thrust their brute heads forward among the faces of the ladies, uttered abominable words, handed notes of foul import, passed obscene pictures, and made themselves almost as disgusting as such beasts are capable of.

What should be done to such infamous rufflans?

We have, at last, hit upon a device exactly suited to their quality, both as a punishment for the past and a remedy for the future. Some will perhaps say, Expel them! No, not yet. Try our method first. Others would say, Donate them to the dissecting room, and let them help the cause of science in the capacity of subjects! No, not yet! For, although Galen used to dissect monkeys and other animals, almost as

low as these students, we insist that our method shall be tried first. Perhaps others will say, Send them to jail, till they learn better manners! No, not yet! The jail is not exactly the best school of manners in the world. Besides, we suspect that some of these fellows have already tried the experiment, for they have jail manners still adhering to them.

No, the device which our inventive soul has hit upon is simple and sane! It will punish them without giving them a chance to be either mock-heroes or mock-martyrs, and we think that one application will cure them for all the rest of their natural lives.

In short, our method of dealing with these refractory, uncivil, obscene, insolent, over-grown boobies, is this: have a squad of policemen sent to the hospital. Let each policeman be provided with half a dozen large, thick, new shingles. Let the students be summoned in parties, say of a dozen, into some retired corner of the backyard, and let each one be taken by a stalwart policeman and laid across the official knee, and then, when the intervening habiliments are appropriately disposed of, let the shingle be applied most lustily; and so let each booby be spanked until he howls the Declaration of Independence, the Fifteenth and Sixteenth Amendments, and the Multiplication Table backwards!

That, we repeat, is a device exactly suited to the dignity of the culprit; and we will stake our fortune and our fame upon it, that he will never again insult a lady!

Try it!

THE TEMPERANCE WORK among the poor and degraded is being carried on vigor-orously and successfully by the missionaries and Bible-readers of the city. There are now eight or ten Temperance Societies connected with the Board of City Missions; several of these are for women. The success in securing and holding women who had become victims of the cup, has been marked. In the "Woman's Temperance Union, No. 1," the first one organized for women, three years ago in the Thirteenth Ward, there are now twelve hundred members. More

than three-fourths of these are reported as keeping their pledge most rigidly, with few lapses on the part of those who had been longest enslaved. Scarcely half this proportion has ever been true in our most successful labors among the men who have been enslaved by drink. This remarkable result is due largely to the fact that each member is visited daily by the missionary or Bible-reader the first month, and three or four times a week the second month, and at least weekly till quite confirmed. Besides this visitation, a meeting is held by and for them every Friday evening, and on Sabbath morning and evening. They meet at the Chapel, No. 70 Columbia Street. There is also a Society for the men, which meets at the same place on Monday evening, with a membership of over two thousand.

OUR LITERATURE ABROAD. —The London Cosmopolitan pays the women writers of America a just compliment, when it says "The works of Miss Evans, of Mrs. Southworth, Mrs. Oakes Smith, and Mrs. Stephens, are absolutely free from immorality, both in principle and suggestion. We have never read an American novel of a meretricious character, and their writers are far superior to the English on the score of moral purity. This can not be said of the most popular fictions written by English authors, and more especially by English female authors. . . . It would be very easy, although it might subject us to a prosecution for libel, to name certain women writers of London, whose only attraction is the universal vice arising from the abuse of sexual passions. From Preface to Finis they seem to roll it as a sweet morsel under their tongues. This is also true of the present novelists of Paris, Arsene Houssaye being the chief of sinners in this respect; Madame George Sand having cooled down with age. and Dumas, pére et file, having exhausted the resources of the demi-monde."

Verily the age is "sowing the wind, to ere long reap the whirlwind," for the passion for fictitious literature is now universal. Formerly heads of families gravely discussed the propriety of admitting the novel into the heusehold; now there is neither let nor hindrance, and every one, from the head to "the maid that does the meanest chores," regales himself with some of this prurient literature, with which American publishers flood the country from abroad, because it can be procured free of copyright, and the public mind is ravenous for this most pestilent aliment. The only cure for this appetite is to supply a wholesome literature, in which the reader will not only find a source of amusement, but matter for thought and judgment. A story that deals only in incident is no better than a police report.

"Personal Beauty: How to Cultivate and Preserve it in Accordance with the Laws of Health," is the title of a new book by Dr. D. G. Brinton, and Dr. George H. Napheys. It is a well-considered and sensible book upon a subject of great personal and public interest. It is an attempt, and we must say, upon the whole, a very successful one, to unfold the principles and arts of personal beauty in the light of medical science. "This department of cosmetics, (we quote from the learned authors themselves) 'Chirurgica Cosmetica,' as the old surgeons styled it, is a border-land between Science and Idealism, between the physician and the artist, and must henceforth take its position as an important field of professional industry.

It is, we say, a border-land between the phycian and the artist. It is wholly within the province of neither. Health is the source of beauty, but the stream does not stay for ever by its fountain."

As there are some who make no secret of their contempt for cosmetic arts, the authors make their apology in the following strain: "If we take under our special charge this slighted branch of study, if we seek to bend to its elucidation whatever the austere oracles of medicine and the humble artisans of the shops can furnish us, let not the effort be disdained. Innocent devices to highten the effect of beauty have nothing derogatory about them. For, as the wisest of poets has said,

'Nature is made better hy no mean,
But nature makes that mean; so, o'er that art,
Which, you say, adds to nature, is an art
That nature makes.

. This is an art

Which does mend nature—change it rather; but
The art itself is nature.'

It is our intent to lay down those rules by which the most desirable form, color, and grace in the human body can be obtained and preserved; and, further, to tell of those artfices, if you will, by which these qualities can be imitated when they can not be acquired. Some of these means are dangerous and injurious. And against these we shall speak words of warning. Others are harmless; and to them there can be no objection, from the physician's point of view. But we know our responsibility does not cease here. Do we run the danger of ministering to vanity, or to deceitfulness? There is no vanity, necessarily, in making the best of ourselves; and a desire to please others in our appearance, as well as actions, has nothing about it reprehensible. What good thing may not be applied to some ignoble end? There is nothing blameworthy in the love of beauty, nor in its cultivation; nothing contrary to purity or religious faith."

Whatever difference of opinion may exist as to the wisdom and safety of the advice, in some cases, offered by the authors of this book, there can be none, we think, as to the general correctness of their recommendations. In some particulars their views seem to be opposed to the teachings of most Hygienic reformers. Yet the most uncompromising opponent of flesh diet and drugs could hardly withhold the tribute of gratitude to the learned authors, for rescuing this important department of knowledge from the exclusive control of quacks and charlatans, who avail themselves of the ignorance of the public to palm off many secret and mischievous preparations. It is no small advantage to have the secrets of cosmetic art laid open, and the injurious effects of nostrums in general use pointed out and emphasized by competent medical advisers.

How to Treat the Sick.

How to Prevent Consumption.—There is no disease whose nature and treatment is so full of interest to the community at large as consumption, because none is so prevalent and so generally fatal. Scarcely a person lives who has not lost a relative, a friend, or at least an acquaintance by the fell destroyer. But though familiar with its symptoms and its history and its presence, we are still to a great extent ignorant of its first cause, ignorant of its nature, and ignorant of its cure.

We shall not occupy space in giving our theories on these points. The discussion of theories belongs more to strictly medical journals. Our object is to give facts of a practical nature as far as we understand them. And in the present case, we desire to call attention to only one element, and a very important one in the character of consumption, that is, its transmission from parent to child. We say of this disease that

IT IS HEREDITARY.

By this we mean that consumptive parents are apt to have consumptive children. Or it may pass over one generation and appear in their grandchildren. This is a generally-accepted doctrine, supported by medical experience and public opinion. We are told that in one of the rural cemeteries of Massachusetts, over the grave of a man and his wife who had both died of consumption, is this inscription: "Insatiable disease! thou hast destroyed both parents: spare, O spare our children!" would seem as though the minds of the dying parents were filled with the thought that they had transmitted the seeds of disease and death to their offspring; and scarcely one would deny that they had good grounds for their fear. Yet it does not follow that in any case

consumption must necessarily be transmitted; on the contrary, there is a certainty that

IT CAN BE PREVENTED.

While it is true that a tendency to consumption is transmitted from parent to child, it is equally true that in most cases, if proper precautions be followed from infancy to maturity, that tendency can be overcome, and the individuals become strong and healthy. But, to this end, years of watchfulness, of careful attention in details, and, it may be, of sacrifice, are required, and few are equal to the task. Still more, many are ignorant of the common laws of hygiene—obedience to which brings health; and some are careless of them, with little faith in their efficacy.

We shall devote this article to a brief summary of the precautions necessary to be taken with chi.dren of consumptive families, in order to protect them from the disease to which they are liable. And these same precautions will, of course, be still more effective in preserving in health those who are not of consumptive families, than those who are.

CLIMATE.

It is certain that some countries enjoy comparative immunity from consumption, while others are scourged with it. And, as this irregularity in the distribution is to a great extent independent of the state of civilization and the customs of the people, the result must be attributed to the climate. And the evidences are all in favor of those countries possessing a dry atmosphere. Not necessarily a warm climate. The Northwest Territory, Minnesota, the high lands of Mexico, and other places, may vary in the degree of temperature from cold to hot, but they are equally fortunate because of their dryness.

THE RESIDENCE

of the consumptive should then be in a dry country, and especially in a dry section of that country. Avoid a damp soil for residence. The report of the English privy council on this subject, as well as investigation made by others, show that in localities thoroughly drained there was a marked diminution in the number of deaths from consumption. The house should be on a slope, rather than a plain, where the sun can have free access. It should not be thickly surrounded with trees, nor covered with vines. Rooms large and well ventilated. The oldfashioned fireplace is a ventilator of the first class; but if the house be heated by air-tight stoves and furnaces, ventilating shafts of some description should be adopted. Let sunlight and air into the house; throw open blinds and curtains. Every morning the windows should be opened wide to let out the foul air that has accumulated during the night. And at night be not anxious to close the windows very tight -even if it is in winter. Leave a few airholes, and put on more blankets. Do not be afraid of

PURE AIR.

People are apt to be greatly alarmed about "catching cold," and if the weather is not of the mildest possible kind, are fearful of venturing out, Says an eminent physician, giving advice to consumptives, "Whenever in doubt about going out, ALWAYS GO OUT. If a violent storm is raging then keep within doors, but when it ceases, seize the occasion for out-door exercise." Pure air, to a consumptive, is the greatest blessing. The oxygen which it contains is necessary to the purity of his blood. Without oxygen there is no life; and the consumptive, of all persons, needs this life-giving element. The air that he breathes should. therefore, be of the purest quality. Not only should it be air free from the odors of decaying vegetable and animal matter, steaming up from filthy back-yards and streets, from slaughter

houses, and oil refineries, and bone-boiling factories; but it should also be air rich in oxygen. The air we inhale loses its oxygen, which is replaced by carbonic acid, a poisonous gas. Consequently, we should not breathe the same twice. Without the oxygen, health and life soon vanish; let a poison like carbonic acid take its place, and the fatal end is the sooner hastened. See, then, how essential it is for the child, tainted with consumption, to have pure air, not only out-doors but in-doors as well. And he wants the

SUNLIGHT

also. Plants deprived of light, if they succeed in living at all, are thin, white, unhealthy. So children, as well as adults, living in rooms where little light enters, grow up pallid, emaciated, sick. The researches of science point out the sun as the center of force and life to all organized living beings, whether vegetable or animal. The rooms occupied by a consumptive should then be free to the light of the sun, with not the thinnest vail to shut out his rays. Besides these natural elements of health he will need plenty of

NOURISHING FOOD.

Enough to eat, but simple in quality. From the food the blood is formed, and if the one be deficient in quantity or quality, so will the other. A person may have plenty to eat, but if it be of poor quality he will suffer more than if he had but a small quantity of the proper kind. A man may die of thirst on the ocean with "water everywhere, but not a drop to drink." So he may starve when surrounded by an abundance, if it is unfit for nourishment. Avoid stimulants and condiments, pastries and candies. They not only fail to nourish, but when given to a child spoil its appetite for wholesome food. Beef is a valuable article of diet-hog meat the very opposite. But it is not so much any special article as the general rule of simplicity in the character of the food.

CLOTHING.

Deficient or improper clothing, leaving the necks and arms and legs of children bare in winter, wearing thin shoes, compressing the lungs with tight dresses, instead of leaving them free to draw in all the air possible; all this is inviting consumption and strengthening its power. Children are often sacrificed to the vanity of parents, who dress them to look like angels, and very often make angels of them by so doing. "Plenty of flannel for the children," said John Hunter, and if the advice were followed there would be fewer little graves in our cemeteries. The first object of dress is protection, ornament should be secondary. A healthy dress is a comfortable one, warm in winter, and in the changeable weather of spring and autumn, cool in the heated summer.

CLEANLINESS

is called for, washing the body daily with cool water, all over thoroughly drying the skin after every bath.

EXERCISE

in the open air is necessary to health, for all classes. But a little judgment has to be used, not to overdo it. Especially is this the case with young men. The extravagances of athletic sports often do more harm than good, injuring both body and soul. Betting and gambling affect the one, while strained, over-exertion affect the other. Injuries to blood-vessels and heart, to muscles and joints, have frequently been traced to undue indulgence in ball-playing and rowing. The question is sometimes asked, What effect has our system of

EDUCATION

upon the health of pupils? The danger lies in too much study. Prolonged intellectual labor, even without the miserable hygienic arrangements too common in our schools, has hurried many a youth to his grave. Five hours a day, including recesses, is time sufficient; while more is injurious to the majority

of children. Some children take great pleasure in study, and, instead of being guided and controlled by parents and teachers, they are more likely to be encouraged to put forth every effort. They are stimulated by the approbation of friends, and the prospect of winning honors and carrying off prizes. The evenings at home are occupied with school studies, and the days are often spent in rooms very unfit, especially in winter, when they are over-heated and poorly ventilated. There is danger in attempting to cram the memory, and in exercising the mind, at the expense of the body. Physical training should be part of the regular course of study at school, and for girls as well as boys. Whenever reference is paid to physical culture, it is generally in reference to boys alone; while the future wives and mothers of the country are not considered. The bodies of the one class require care as well as the other, and especially in the case of consumptive children.

OCCUPATION.

The choice of trade or profession is of great importance. A man may, in general, follow almost any occupation with comparative safety by taking proper precautions, and by strict attention to hygiene. But there are some especially injurious to any one with a tendency to consumption. Any of those practiced in places where fine dust is floating in the air, as machinist, knife and scissors-grinding, etc.; the dust clogs up the small air-cells of the lungs. and hastens the advent of the dreadful disease. All trades that cramp the chest should be avoided such as that of shoemaker and seamstress. These not only hinder the free expansion of the lungs, but being from their nature sedentary, they become doubly injurious. The consumptive youth should avoid all sedentary occupations, such as clerkships, or any other semiliterary employment, and should choose the more active occupations, which will call for bodily exercise in the open air. He should also avoid all manner of

EXCESSES,

whether mental or physical, of labor or pleasure. Excesses in the use of alcohol, apart from their general injurious effect, should be specially avoided by the consumptive. Its use drives the nervous system to insanity, permanent as well temporary, stimulates the circulation to a more rapid flow, causing obstruction of internal organs and various diseases, and besides, impairs digestion and destroys the appetite for wholesome food. It is a false idea that the person with a tubercular tendency will escape by the free use of liquors. He runs more risk of dying by consumption than if he kept sober, and the only escape he has, is when he is killed by the whisky before consumption gets a chance. Excesses in the sexual relations also hasten the attack of consumption, and render it more speedily and certainly fatal.

We have already stretched this article to an undue length, and must close, leaving the consideration of other points to some future time. But by pursuing the course we have recommended steadily, not for a few days, nor a few months, but from the cradle to maturity, there is no doubt the tendency to consumption can be crushed out; and, in the language or another: "Out of weak, puny childhood we may form stalwart men and graceful and healthy women, fit to be the future parents of the race."—Editor Canada Health Journal.

TREATMENT OF SICK CHILDREN.—Editor of Herald of Health: I was reading, a short time since, Dr. Humphrey's description of a case of cholera infantum treated at first drug-opathically, when it occurred to me that one of an opposite treatment might be interesting to the readers of the columns of "How to Treat the Sick" without medicine.

My little boy, who has never eaten any meat, salt, butter, cookeys, doughnuts, or the like, was taken violently sick last summer,

during teething. He seemed as well as usual that morning, only he ate no breakfast, which I knew was a sign that something was wrong, as he never eats when not well. Before I left the table, he was taken with bloody discharges and rapidly grew cold, though a very warm day. I never saw one grow sick so fast; he had eight discharges in an hour, with griping pains. I put his feet in warm water, made a bed of warm blankets, put a bottle of hot water to his feet, and warm flannels on his knees. Stationing myself at his side, I put flannels wrung out of hot water on his bowels, and gave a cool injection after every discharge, and watched his face closely. I might have before said, he went into a stupid sleep when first taken. Soon, there was a red tinge on his cheek, and the discharges stopped. I expected a fever to follow the cold stage. When he was well warm, I removed the bottle from his feet, and gradually, as the color returned to his cheeks, removed the coverings. His sleep became natural, and moisture gathered on his forehead, which showed Nature triumphant. In three hours from the time he was taken he awoke with a smile, and in a few hours was at play again as well as usual, only a little weak. Such was the termination of one of the most alarming cases of cholera infantum. Which is the better way, my treatment or the Hygienic: Hygienic diet for children, or the fashionable way of feeding them ?-Mrs. M. E. Cox, M. D.

INFANTILE OPHTHALMIA.—This disease in infants is, among the lower classes in cities, very common. It is generally due to contagion, bad air, and filthy surroundings. The first thing indicated in the treatment is cleanliness. Let the child, when washed, have absolutely clean sponges and linen, and never those that have been used for other purposes. Usually the disease appears two or three days after the birth of the child. In most cases it may be avoided, by Hygienic treatment.

ANSWERS TO CORRESPONDENTS.

BY A. L. WOOD, M. D.

Enlargement of Liver and Spicen.

-" In all the Hydropathic works I have read. I have found no entirely successful plan for the relief of the enlargement of the liver and spleen-the effect of malarial influences. Still, the Hydropathic plan, as I have learned it, is more successful than the mercurial treatment of the Allopathic system. Here, in this county. the malarial poison is so intense, that we, not unfrequently, have chills of such severity as to defy all remedial means, and the patient must die without any reaction. In a large number of cases, the liver and spleen are left, upon the relief of the fever, large, tender, and more or less inactive. In a good many of these, where the patient lives (and for years has lived) in a very malarial region, the liver and spleen become enormously enlarged, the blood thin and watery, and the patient dropsical. I suspect you never see such enlargement of the spleen as we often witness here, as New York is free from the miasms common to our creek and river lowlands. I have a case, a recent one, in which the spleen is palpable over three-fourths of the abdominal surface - with anasarca, ascites, and much distension of the scrotum. patient is pale, and the blood seems to be almost all serum I shall lose him, I think, as his present condition is only an aggravation of a habit of system of many years' duration. However, I have undertaken his case, and shall do all I can for him, 'knotty' as it is. I wish I had your Laight Street Turkish Bath here for awhile, then I could be quite hopeful of his restoration. In all these cases, the skin is about equivalent to tanned hide of the thinner kind-dry, inactive, from which no true perspiration takes place, but through which a watery transudation passes, having very much the effect on the patient that a diarrhea, or diabetic urination would have—that is, whenever the skin is moist at all. As you insert an article on some disease in each number of your HERALD OF HEALTH, which I take, I should like to see a short essay on the condition I have mentioned, and the details of trentment."

The above is from a physician in Western North Carolina. Judging from his description his section of the State is not a very desirable one to live in, and the sooner the inhabitants migrate to some healthier location the better. But by proper attention to bathing, diet, and an observance of the laws of health generally, the people would be able to prevent a large share of the sickness they now suffer, and many of them escape it altogether. As long, however, as their principal food is "hog and hominy," and their luxuries tobacco, whisky, and coffee, they will continue to suffer and die as at present. The physicians there should teach the people how to live, so as to suffer as little as possible from the effects of the malarial poison. If the liver, skin, and other depurating organs are kept in a healthy, active condition, the system will generally be able to expel the malarial poison through them without much difficulty. But, if they are kept in an inactive and diseased condition by the aforesaid "hog and hominy," etc., the system is unable to expel the poison, and it keeps accumulating, causing enlargement, dropsical diseases, and death. The diet of people living in such a place should consist principally, if not wholly, of fruits, grains, and vegetables, plainly and simply prepared. No pork, lard, or greasy food of any kind. No superfine flour, fat or salted meats, and, in most cases, the less meat of any kind the better. The same is true of sugar. Pure soft water should be the only drink. This can be obtained by filtering rain water, if in no other way. No tobacco, alcoholic liquors, tea or coffee. A daily bath with thorough friction of the skin.

In regard to the treatment of the case mentioned, there is but little chance for recovery, unless the patient is removed from the influence of the malarial poison. Our treatment here, in such a case, would be Turkish Baths, to restore action of the skin and eliminate the poison from the system; the Movement Cure, vibrations, and electricity to promote the action of the torpid organs, cause absorption, equalize he circulation, increase the respiratory action,

and strengthen the muscular system. The best substitutes for the Turkish Bath, available for home use, are the wet-sheet pack, the vapor bath, and the lamp bath. Full directions for applying these will be found in a little book entitled "Water Cure for the Million," to be had at this office; price, 35 cents. Thorough and oft-repeated friction, rubbing and kneading of the whole body, while exposed to the direct rays of the sun (the patient being nude), is one of the most useful modes of treatment which can be pursued outside of an institution. Percussion and vibration of the sides and abdomen should be given daily. The bowels should be moved daily, by tepid water enemas if necessary. The diet should be as indicated above.

Over-development of the Lungs.

"I noticed in the April number of The Herald of Health, that the process of expanding the chest may be carried to excess. I presume this applies to a full-grown man, but does the same rule hold good in the case of a growing boy, 15 or 16 years old? The process of expansion, it is said, consists not in the increase of the number of cells, but in filling those already formed with air. Now, in a boy the cells have not obtained their growth, and it seems to me that exercise would tend to prolong and increase the growth, as well as the fullness of the cells,"

The same rule holds good in the case of a growing boy or girl as in that of a grown person; the development of the lungs may be carried to excess, although it seldom is. What we need is an harmonious development of all the bodily powers, then there will be no danger of over-development of any part. If the development of one part or organ is carried to an extreme, some other part or organ lacks development in a proportionate degree.

Unnutural Appetite.—" Why do some children eat dirt, chalk, or common gravel, and is it safe to indulge the child in its unnatural appetite, or is there a substitute for it?"

Because they do not get the amount of mineral matter in their food which their systems require. Give them plenty of graham bread or oat-meal, instead of fine-flour bread and other starchy food, and they will evince no desire for chalk, dirt, etc. enough to inform me if there is any cure for what is commonly called the 'big neck?' My neck has been growing immediately in front for a number of years; it gets sore toward night, and worse if I take cold. It feels as though I was choking. My diet is composed almost entirely of fruit and vegetables."

It has generally been considered incurable, except in its early stages, though it is not always so. The patient should pay particular attention to the laws of health in every respect. Pure DRY air, sunshine, and pure sorr water are especially important. A cold, wet bandage should be worn as tightly about the neck at night as comfort and free respiration will allow. Friction, rubbing, vibration, and manipulation of any kind, also the cold douche and exposure of the swelling to the direct rays of the sun, are the most effectual local means of cure.

Weak Eyes.—"I am troubled with a collection of secretion or matter in the corners of my eyes. They are, however, neither painful nor inflamed. Notwithstanding my diet has been for some eight months a vegetable one, and my habits have been regular, there seems to be no change for the better. Will you be so kind as to suggest something which, applied to the eyes, will be beneficial, and, perhaps, effect a cure?"

Bathe the eyes often in tepid or cool water, whichever feels most agreeable, and avoid using them more than you can help, especially in any kind of artificial light. Avoid all stimulating articles of food and drink. If inclined to over-eating, guard against it.

Camphor Gum.—"Is camphor gum a safe stimulant when one feels a special craving for it?"

No one in a healthy condition ever feels a craving for such an article. A moderate amount of camphor will not kill a person, but it is injurious and of no use. A craving for it is the result of habit or of wrong dietetic conditions

Colic.—"What is the cause, and cure of colic?"

An answer to this query will be found in the May number, page 235.

NOTICES OF NEW PUBLICATIONS.

TALKS TO MY PATIENTS; HINTS ON GETTING WELL AND KEEPING WELL. By Mrs. R. B. Glesson, M.D. New York: Wood & Holbrook, Publishers, No. 15 Laight Street. 1870.

This is one of the best, if not the best book of the kind ever published. Delicate subjects are handled with womanly tact and delicacy, no less than with courage and good common sense. So many thousand years as these human necessities of life, of birth, development, growth, and decay have existed, they are comparatively little understood and regarded, by women most capecially, with a false shame or a singular undifference. The most common and natural processes of being are considered as subjects outside the pale of familiar consideration, and boys and girls grow to maturity with no just or rational views upon that which is of vital importance to them; often, also, with coarse and even obscene ideas upon what is in reality not only beautiful in a human sense, but holy in a divine sense.

We would gladly see this work in the hands of every young mother in the land; it would serve to give her confidence in herself and in the divine provisions of nature. She would be saved from that weak and senseless fear which embitters the life of the young wife and mother, and leads her to adopt courses destructive to her peace of mind and detrimental to her health; for Mrs. Gleason not only tells us the best methods to insure the last, but she is a moral teacher also, with just views, and resolute faith in the uprightness of design in the human creation.

The full, gracious womanhood of the author is apparent throughout, not unmixed with a cheerful humor quite refreshing upon such subjects. She is evidently familiar with the pen, and uses it with ease. She is sufficiently scientific, but not technically so, and her book may be cited as proof that women never undertake any thing they are unable to accomplish; that if they make a claim they are able to make it a justifiable one; and this of theirs to the medical ranks is one peculiarly and properly to which they are entitled. We are proud to say that they honor the Profession; they are fast driving from its ranks those unprincipled charlatans who cater to the weakness and wickedness of woman, and render marriage a barren and dishonored relation.

ELIZABETH OAKES SMITH.

THE PUBLISHERS' DEPARTMENT.

Contributors to this Number.

MRS. ELIZABETH OAKES SMITH,
HENRY WARD BEECHER,
F. B. PERKINS,
ARCHIBALD MACLAREN, of Oxford, Eng.,
WASHINGTON GLADDEN,
REV. CHARLES H. BRIGHAM,
PROF. HUXLEY,
DR. A. L. WOOD, and
THE EDITOR.

Irregularities in Mailing.—The May HERALD OF HEALTH, though published early in April, was mailed late, and some of our subscribers began to fear it was not going to reach them at all. The occasion was, that we have been adopting Dick's method of ma'ling, and were delayed in getting it into operation beyond our expectations. If any failed to get it or any previous number, they will please inform us. If any found their names misspelled or wrongly directed on the little printed label, they will also please to let us know. We desire to have our mailing lists accurate, and shall be glad to have all errors fully corrected. We hope hereafter there will be no cause for complaint. By this method our subscribers, it will be seen, can keep their own accounts as to when their terms of subscription close; for instance, if the printed slip has "De70," or "Je71" added to the name, it signifies that the subscriber's term of subscription expires with the December number of 1870, or the June number of 1871, and so on et sea.

Appointments.—Dr. Susan Everett will lecture on Physiology and Hygiene at Syracuse during the first part of June. She has been lecturing in Western New York, most successfully, for several months. She has been urged to lecture at several of the watering places during the summer.

Her Postoffice address for June is Syracuse.

Talks to My Patients.—Mrs. Gleason's book, advertised and noticed elsewhere, is meeting with a good sale. We can supply it to subscribers and agents in any quantity. A good many ladies are selling it with success. We should like to have in every town a good Lady Agent. For particulars of agency, write to the Publishers.

A Good Sewing Machine is given free for a club of 35 subscribers and \$70. This premium is very popular. If there is a poor, deserving family in your neighborhood help it to get a good sewing machine by subscribing at once. Perhaps your minister's wife wants one. If so, help her to get it, by helping her to get up-a club. The Empire is one of the best sewing machines in use, and we are sure that it will give you good satisfaction.

Our Premiums.—We shall be careful to send out as Premiums nothing which is not all that we claim for it in value. No cheap, second-hand, or indifferent article will be used.

Facts for the Ladies.—I have used my Wheeler & Wilson Sewing Machine over ten years without repairs, and without breaking a needle, although I commenced the use of it without any instruction. Have used it constantly for family sewing; have quilted whole quilts of the largest size, and is still in complete order, runs like a top, and bids fair to be willed to those who come after me, with better powers of production than an unbroken prairie farm.

Whitewater, Wis.

MRS. H. E. G. AREY.

How to Send Money.-In making remittances for subscriptions, always procure a draft on New York, or a Postoffice Money Order, if possible. Where neither of these can be procured, send the money, but in a Registered letter. The present registration system has been found by the postal authorities to be virtually an absolute protection against losses by mail. All Postmasters are obliged to register letters whenever requested to do so.

The Picture of Humboldt.—We are now sending out the picture promised to our single subscribers for 1870, who send directly to the publishers \$2. Lest there be a misunderstanding on the part of some, we state distinctly that those who take THE HERALD at club rates will not be entitled to it. The way to secure the picture is to send your money direct to the Publishers.

Home Treatment.—Invalids wishing prescriptions for home treatment can have them for Five Dollars. They should send full particulars of their cases. Any person sending five new subscribers to THE HERALD of Health and Ten Dollars, will, if he does not choose other premiums, be entitled to a prescription for treatment free.

Wanted.—Will our readers please send us brief items of news and experience referring to Health and Physical Culture topics. Make them pointed and practical, and we will publish them for the benefit of others. Do not mix them up with business or personal matters, but on separate sheets of paper and in readiness for the Printer.

Caution.—Our friends in writing to us will please be very particular and give Postoffice, County and State with every letter, and not depend on us to remember where they live, though they may have told us a hundred times. Those who think we can turn to our books and find their names and address without trouble, are quite mistaken.

Elizabeth P. Peabody's Opinion of THE HERALD OF HEALTH .-- I do not know how many new subscribers you get, but I do know you have no more faithful canvasser than I, who exhorts all my acquaintances, old and new, to subscribe to THE HERALD OF HEALTH, as the most useful monthly visitor that can come into a family, whether moral or mental or physical health is the question.

Clubs of Twenty-five.—Any person who will send us at one time twenty-five new subscribers to this monthly, shall have them for Twenty-five Dollars. Remember, they must be new subscribers, and all be sent at one time.

Notice to Our Correspondents.-The following hints to correspondents should be observed in writing to us:

- 1. ALWAYS attach name, Post Office, County, and State to your letter.
- 2. SEND MONEY by Check on New York, or by Postoffice Money Order. If this is impossible, inclose Bills and register Letter.
- 8. CANADA AND NEW YORK CITY SUBSCRIBERS should send 12 cents extra, with which to prepay postage on subscriptions to THE HERALD OF HEALTH.
- 4. REMEMBER, if you are entitled to a Premium, to order it when you send the Club, and inform us how it is to be sent.
- 5. REMEMBER THAT WE NOW GIVE the Empire Sewing Machine as a premium. It is guaranteed to give good satisfaction.
- 6. REMEMBER TO SEND in Clubs early.
- 7. REMEMBER TO LOOK at our Premium List and Book List, and see exactly what we give and have for sale.
- 8. REMEMBER that for the names and addresses of 25 persons, either invalids or friends of Temperance and Health Reform, we give Prof. Wilson's book on the Turkish Bath. It contains 72 pages.
- 9. STAMPS should be sent to prepay postage on letters that require an answer.
- 10. Those who want a good Spirometer, Parlor Gymnasium, or Filter for making their water clean, will find the prices in another column.
- 11. INVALUE from all parts of the country are invited to write to us for our circular, and full particulars as to Treatment or Board in the Hygienic Institution, See advertisement elsewhere.
- 12. Sec List of Books elsewhere.

Job Printing.—We are prepared to execute in neat, substantial styles, various kinds of Jon PRINTING: such as Pamphlets, Circulars, Envelopes, Billheads, Letter-heads, Cards, Labels, Small Handbills, etc., at the same rates as in all first-class New York printing establishments. Stereotype work done to order.

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Prof. F. G. Welch.

Instructor in Yale College, and Author of " Moral, Intellectual, and Physical Culture,"

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To every Simule Subscriber, who sends us \$2 00, we will send

A VERY FINE NEW STEEL ENGRAVING of the great Philosopher and Scientist ALEXANDER VON HUMBOLDT: after an Original Painting owned by A. T. Stewart. Eso.

The above-mentioned picture is only for those subscribers who send us \$2 direct. Where the names go in clubs at club rates, to take a premium, we do not send them.

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A copy of "A WINTER IN FLORIDA," worth \$1 25 or one copy of "PHYSICAL PERFECTION," worth \$1 50.

For 3 subscribers (1 old, 2 new) and __\$6 A copy of Prof. Welch's New Book, "MORAL, INTEL-LECTUAL AND PHYSICAL CULTURE," worth \$2 25.

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For 7 subscribers and _____\$14

We will send postpaid one of Prang's beautiful Chromos, worth \$5, cslled THE BAREFOOTED BOY. After an oil painting by Eastman Johnson. This is an illustration of the familiar lines of Whittier:

> "Blessings on thee, little man, Barefoot boy, with cheeks of tan."

It is the portrait of a "young America" in homespun slothing, barefooted, and with that self-reliant aspect which characterizes the rural and backwood's children of America. It is very charming. Size, 9 3-4 x 13.

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This is a country scene, composed of a village in the distance, with trees in the middle, and the village pump in the immediate foreground. A happy looking village boy lends his friendly aid to a pretty rustic damsel, wo is quenching her thirst at the pump, the handle of which he is plying vigorously. The position of these figures, in connection with the dog, who also enjoys the cooling draught, forms a most interesting group, which is excellently rendered in strong, effective colors. Size, 13 x 17.

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ety of garment from a stocking or bed-blanket to an e
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We will send THE HERALD OF HEALTH and any one of the following Journals one year, for the sum below mentioned. The order and money for both must be sent at the same time.

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 \$4 00 for \$5 00

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THE TWO WIVES.

BY MRS. RLISABETH OAKES SMITH.

CHAPTER XX.

RENUNCIATION-NOT OF THE WORLD.

A FTER John Stearns, as we have shown, committed the great crime which rendered him a grief-stricken and a conscience-stricken man, a man against whom might be stretched forth the hand of the law at any time, he hovered long on the confines of two worlds, prostrated by the blow of the miserable felon, and prostrated by the agonies of remorse. The brother of his wife had not revealed his true name at the time of the trial, and she, in her love for him, and her shame for him, had respected a secret, which, if divulged, might render her less esteemed in the eyes of her husband, whose uncompromising integrity she well knew.

Sometimes John Stearns was tempted to go before the proper authorities and confess his sin, but again he shrank from so doing, in view of the uncertainties of the law, and the caprices of public opinion. Both he and his wife were found bleeding and insensible, and it was supposed that some one had felled both to the earth,

and, having robbed them, had escaped. This was the more probable, as the well-known fondness of the young pair for each other induced them to pass hours, and even days, in the wooded suburbs of the city. It was surmised that the assassin had come stealthily upon them from behind, and thus easily had accomplished his purpose.

By the aid of a friend and fellow-countryman, Stearns was at length induced to leave a place which but constantly reminded him of his loss, and of his crime, and where an irresistible desire grew upon his mind to give himself up to. the law and fare the worst. From this his devoted friend saved him, by prevailing upon him to travel south to the State of Maine, where he himself had worked in mills upon the Androscoggin, and where time and change might eventually restore him to some degree of peace. Perhaps it had been wiser had he followed the promptings of the monitor within, and stood before his fellows with a clean heart at least, for hidden sin isolates a man from his kind more than prison-bars or walls can ever do.

However this may be, John Stearns buried his secret in his own breast, telling only his mother; and the two unhappy beings wandered away through the vast wilderness of Maine, bearing with them the motherless child, which they soothed and guarded with more than a mother's love. Sometimes they staid for days in some rude bark wigwam strown with hemlock boughs, which had been constructed by some hunting party out in pursuit of the moose, bear, deer, or other denizens of these wild regions. Here John Stearns felled the trees and built a huge fire in front of the lodge, which served to dispel the damps of the night air, as also the black flies which infest all solitary and primeval woods. Sometimes the log hut of the lumberman afforded them shelter, while his gun supplied game from the woods, and his hook lured from some lonely stream the delicious trout, so well esteemed by the epicure. sooner were the devoted mother and tender child carefully housed and provided for, than the unhappy man sought some dark, solitary screen, known only to Pan and the Satyrs, and there, with inexpressible anguish, poured forth his supplications to the living God, and implored the aid of the Comforter.

Slowly, painfully he found rest; but he grew, as his mind found repose, to dread the sight of his innocent child. "Its eyes are always asking, Where is my mother?" he would say, "and I can not endure it—they drive me mad!"

His friend had told him much about the community known as the Shakers, and had recommended it to him as a safe and comfortable asylum, at least for the poor child. His mother remonstrated in vain—he could not see its wee patient face without a pang, and its low wail in the night-watches sounded in his ear like the piteous cry of the mother as she sank in death at his feet.

Following the advice of his faithful friend, he at length reached the Shaker village, where he was hospitably entertained, and where the poor child was most tenderly cared for. Mrs. Stearns had but one passion, and but one set of ideas in the world, and that was devotion to her son, and conformity to all his will and ways, now that he was a man set apart and stricken by a great grief. Leaving all his worldly goods in the hands of the Shakers, to secure an independence for his child, should she ever desire it, he at length reached the mills on the Androscoggin, as we have seen.

John Stearns had been faithful to his child.

as he had promised when he had turned his back upon her, but he had foreborne to make any inquiries about her—he even sometimes hoped that she might die, and thus cease to haunt the cells of memory with a look that, to him, was always one of reproach. He never looked upon her face all the long years of her childhood and early youth, and saw her once or twice by mere accident in the neighborhood of the river, when she recalled too vividly the face and look of Lily for him to doubt her identity.

John Stearns awoke as if from a dream, and wondered how the years had fled—wondered at his own social decline, and felt as if a chasm had yawned at his feet, uniting the happy past, the guilty past, with the miserable present, and he resolved to speak with her, and learn if she could sympathize with him. The result we have seen, in the unsatisfactory interview by the river-side, and then the last meeting when the wreck drifted out on that great unknown ocean, which momently swallows up its millions.

Electa but imperfectly comprehended the scene, which shook the very foundations of her being at the very sad revelations of the dying man.

There was no formal parting between Electa and David Parker. They walked together amid the flowering shrubs, some for use and some for beauty, but all with an eye to thrift, and he gathered a long fringe-like leaf of yarrow and laid it upon her hand, while she in return gathered for him a pansy.

- "Dead!" he said with a smile that was almost a sob.
- "Translated," she replied, looking upward.
- "Electa, we are both faithful to our vows; but we can be absolved from these."
- "There is no need, no desire therefor," she replied.
- "Yea. But the carnal affections are not mastered without fasting, prayer, and wrestlings of the spirit. I would know one thing of thee, Electa?"

She turned her frank eyes full upon his face and waited for him to speak farther. He did not speak, but sang, in a low, bewildering voice, a hymn, in which mingled the silvery notes of Electa—oh, so low, so full of an indescribable sadness, that the listener, whoever he might be, must have felt that here indeed were hearts that bled; hearts whose very depths had been sounded, and that thenceforth the waters were to mingle only amid the streams that flow fact by the oracles of God.

HYMN.

We have passed the river Jordan,
Passed the wild and surging flood—
Left behind the death-dark valley,

Mounted to the throne of God— See! the crystal gates are sliding, On their golden hinges gliding.

Oh thou glorious Zion City,
Where our King Eternal reigns!
Where he bends his eyes of pity
When the heart too much complains.
There the Comforter is keeping
All the tears that we are weeping.

There shall meet the faithful-hearted;
There celestial spirits meet,
Never more from other parted,
Walking down the golden street;
Songs of gladness ever singing
Where the heavenly harps are ringing.

"Shall it be there, Electa?" asked the young clder, his manly check trembling and color-less.

She placed her cold hand in his, and, lifting her eyes, said solemnly,

"As I hope for eternal life, I desire no less than to meet thee there."

"And this shall be the only sign of our union!" He stooped down, and one moment the head of Electa laid upon his breast, and their lips met, never more to meet again in this life.

Electa did not at once return to the house of the Professor, but, on the contrary, she went up to the hills, the everlasting hills, there to learn that grandeur of repose which comes upon those hights when the solemn light of Heaven comes down upon them after the tempest has overpassed.

Did she ever forget how royally grand was that last look of David Parker? How superior to all the ordinary passions of this world! How dark, and yet soft, his large gray eye, his brown hair, which would curl in spite of the prohibitions of the sect, and the white, even teeth gleaming through the grave, manly smile! Did that noble presence haunt the cells of memory, moving not in grief and despondency, but royal brave, and royal content? for love, in its highest estate, is not allied to the desire of mere possession, which it feels is but to lower its singleness of purity; for love is not of the earth, earthy, but a revelation of the celestial, heavenly, and this is the bread of which the pure in heart partake, and it fills them with a divine fullness and ineffable joy.

CHAPTER XXI.

EXTREMES MEET—TRUE WOMANLY SYMPATHY
— PEACE — JAMET FINDS NATURE STRONG
WITHIN HER.

ISTER Electa was accompanied to the White Mountains by two of the Sisters and two Elders, but David Parker was not one, and she mounted the little rugged horse provided for the traveler who ascends there, and rode to the summit alone, for it hardly comported with the decorum and staid habits of the community to depart so far from the every-day level as to go wayfaring up dangerous and rocky steeps. It is true that a cavalcade of a hundred wound in Indian file around the defiles of the mountain, but Electa saw them not, felt not their presence, living only in her own pure and happy thoughts.

Here, amid the solitudes of Nature, she encountered again the beautiful youth Edward Olmstead, he too seeking repose from the questionings of a mind that would not rest in the grooves of every-day expediency. Electa, given up to a pure spiritualism, had found its best expression among a people who abjured conscientiously and faithfully the relations of marriage between the sexes in this world, but who, by diligence and care were able to supply an abundance of the comforts of this world to all who were willing to renounce it as they had done.

Edward, studious as well as spiritual, saw little in the order to meet the wants of a large intellectuality, and only wondered that such grace, sweetness, and wisdom as he found in Electa should emanate from such a barren source. The two found a mutual comfort in discussing these subjects of human progress, which must and will engage the interest of all sincere and benevolent minds; and the growing number of such minds is the best evidence of the reality of these higher, deeper, and more aspiring thoughts and hopes, which all point to a brightening future for the race.

They had stood together on the top of Mount Washington—she the mature, calm, thoughtful woman; he the sensitive, aspiring youth, whose sensibilities found so little to engage his affections amid the worldly, frivolous men and women about him, but who in this woman realized something akin to the divine ideal of womanhood, and in her presence he grew calm, hopeful, and well-nigh content.

Standing upon this stupendous work of time, this vast monument of stone, piled, barren and ragged, as if the old Titans had here heaped their stepping-stones with which to scale the heavens, the two breathed an atmosphere of perfect purity—the air was still and cold, an eternal silence brooded over an eternal solitude; the aky was clear and blue above them, the earth silent at their feet. A single eagle soared, a speck in their lofty horizon, else no living, no breathing thing moved in this vastness of space.

"Thank God for the mountains!" ejaculated

"Yes, and thank him for all that is akin to them, for from thence cometh a conquest better to us than empires to a king!"

"Here I have found peace," returned Edward.

"Here I lay down the struggle and take up the cross."

At this moment a heavy rumbling sound arrested their attention. Looking downward they seemed to stand upon a lofty island in the midst of the sea. A warm sunlight rested upon them; the brown waves gleamed in the sun; the old primeval rocks, fissured and hoary with age; the silence, the isolation—as if these two, set apart as they were in character from the rest of the world, were here snatched away from all relation therewith, and stood alone with God.

The clouds far down the mountain ridge were black and turbulent, sweeping from point to point—like congregated armies pouring forth their dread armament of thunder and flame. It was a scene awful, stupendous—the roaring elements below, the sunshine of divine peace above.

"And this shadows forth the peace which passeth all understanding!" said Electa.

"It has passed into my soul, and I go where there shall be no more combat—nothing but repose. O noble Electa! what the divine Mother is to the true worshiper, you have been to me!" He kissed her hand reverently.

"Where wilt thou go, my son?"

"I will bury myself in the Catholic Church. I will leave these vexing questions to be solved in the progress of the ages, and in God's own way."

"Perhaps it is best," she replied, lifting one of his golden curls in her fingers, and gazing at his thin cheek and spiritual face, that promised but a brief earthly experience.

And so these two separated, he to throw himself at the foot of the cross, and by prayer and study fit himself for a life of total self-abnegation; she to her simple duties, helping the weak and inspiriting the fainting heart. Thus, starting from faith so opposite, their results con-

verged, and each took up the cross of isolation; each ignored the world, but willingly toiled therein, and each happier for a brief companion-ship—as travelers stop to drink from some lone desert fountain, and giving each the other a God-speed, part to meet no more.

Electa buried the history of her birth, and the story of the remorseful, blind struggles of John Stearns within her own bosom. As she had never sought to solve the mystery of her parentage, choosing rather to learn its worthiness by what was represented in herself, than by any solicitude as to its facts, she did not find this a difficult self-imposed tax. The community had so invested her little funds that it now afforded her an ample support and power to go and come at her own pleasure, which after all is the best advantage to be gained by money, and her first step was to visit Janet in her cottage down by the river.

Approaching the house she found that woman of the ready tongue seated on the door-sill, her cheek resting upon her hand, and, truth to say, all her old alertness clean gone out of her. Seeing a stranger approach she lifted herself wearily from her seat and asked her to enter. Her small eyes were red with weeping, and the house had lost much of its former tidiness of look. She dragged a chair forward by the back and motioned her to a seat, muttering under her breath as she did so, "He was a good creeter—good creeter!" Poor Janet felt the loss of somebody upon whom to whet her asperities—perhaps remorse, also, for her former liberal use of them.

"Thee wishes to know of John Stearns," said Electa.

The woman looked up sharply from the chair in which she had seated herself, with her two slip-shod feet upon the rungs, and her arms crossed tightly over her breast, and said:

"Seems to me I've heard that voice afore, and seen that face; but you have the hands of me; I can't remember who you are."

"You have never seen me before," replied Electa.

"It seems strange, it's so nat'ral-like to me. Ah dear, dear," and she relapsed into her former brooding look.

"Has thee heard of John Stearns since he went away?" asked Electa, looking into her shrunken face.

"Haven't heard from him hide nor hair; and I'm dreadful worrit about him. He left his clo'es all behind, but his Sunday suit on his back, which'll be ruinated wearing so long, if he's alive. I'd go down on my knees to him, if I knew where to go. He was a good creeter, a good creeter!"

"Do you ever expect him to come back?"

"I can't say that I do—leastwise expect, but he oughtn't to leave a woman in doubt whether she's a widder or not, all the time considering about mourning, having nothing to show that she is a widder, and the neighbors peeking and prying, and asking about quarrels and causes, which is no business of theirs. I don't think John Stearns would kill himself, for he was opinionated agin it, but the neighbors does."

"He did not die by his own hand, though he is dead."

"It's a relief to know the worst," said Janet coldly, but presently she threw her apron over her head and burst into uncontrollable weeping—groaning at intervals the words, "He was a good creeter, a good creeter!"

Disinterested Benevolence.

BY REV. HENRY WARD BERCHER.

Is there such a thing as disinterested love, or disinterested benevolence? You can easily define it in such a way as to show that there is no such thing; but when it is properly stated, there is.

What, then, is to be understood by this term, disinterested benevolence?

It is a course of feeling and action in which another's good is the real motive and inspiration of your conduct. It is seeking another's welfare sincerely, really, honestly. Interested good-will is where you make your selfishness serve other people. Disinterested good-will is where you make your benevolence serve them—where you act for the sake of their good, and not your own.

There are a great many who seek their own good at the expense of others. That is the lowest state of selfishness. It is a great advance beyond that where men, while purposely seeking their own good, seek it in such a way as to incidentally benefit others.

Nay, more than that. When a man is placed in a sphere where he must, with many of his powers and much of his time, seek ends that are personal, if he undertakes to turn this lower, necessary and incidental selfishness to a good account, it is positively praiseworthy. A person may seek others' good, and do it in a sphere where mainly his interest is involved. Where a man says, "I will not seek my own interest alone, but will try to couple my interest with other people's welfare," it is not only praiseworthy, but worthy of men's consideration

and culture. This, however, is manifestly not disinterested benevolence.

Advance the feeling of benevolence one grade higher. Seek, primarily, not for your own good, but for another's. Seek that other's good so really in what you do, that if it were not for that motive of benevolence you would not do it at all; so really, that you are not conscious of expecting to be benefited by any incidental effects which may come to you; so really, that it is the impulse of kindness, the drawing of love, the inspiration of true benevolence, which chiefly moves you. If you do this you have disinterested benevolence.

This quality may exist in many degrees of purity or impurity; and it may exist as simple or complex—as an occasional emotion, or as a developed, life-long habit.

Disinterested benevolence does not require that one should act from a single motive. It does not require that one should think of nothing else except the good of that person whose welfare he seeks. For the mind was not made to work so. The mind is a complex agent, and becomes so sensitive to things which it is in the presence of, that it is not possible to wake up one faculty without waking up many others beside—and that in proportion to its culture. When a man acts from a motive, he acts by a faculty; and to require a man to act from only a single faculty, is to require that which contradicts the very structure of the mind. And in this matter of disinterested benevolence, all you can demand is, that benevolence shall be the dominant faculty, leading and controlling the others, and being the real mainspring of the feeling which produces the course of action. So that a person may be disinterestedly benevolent although he is influenced by other motives than those which mainly contribute to benevolence.

Disinterested benevolence does not exclude the perception that one is, in the long run, to be himself benefited by a given act. The constitution of the world is such that benevolence is the best interest of every man. It is the royal road to individual as well as social happiness. You know it; I know it; every body knows it; and when a man acts from an inspiration of good-will to others, he says, "That is the way to make myself happy." He knows that; but that is not the reason why he performs the act.

Disinterested benevolence does not require, either, that one should suffer pain and damage n any course of action which he pursues. There are a great many who suppose that there can be no high action without pain. Accidentally or incidentally, suffering is connected with almost all the developments of our higher feelings; but not because it is necessary in those feelings, except from the fact that we are in the struggle of development.

Intrinsically, disinterested benevolence is delightful. It is the action of the mind in its highest state and purest harmony. That it involves pain is true only on the ground that there is a struggle in the mind between our lower nature and our higher. When our higher nature undertakes to act, and our passions rise up against it, they are to be put down, with pain and crucifixion even, if need be. Men talk about the pain of self-denial. Self-denial is always painful in the resisting part of our nature, but never in the directing part. When a man means to be honest, and his bad passions tempt him to be dishonest, these bad passions suffer. It is not the conscience that suffers. Many people think that if one is disinterested, it is at his expense, but it is not. For true disinterested benevolence is joyful. It is less than that only by reason of the mixture of our motives, and of the low estate in which we live in this world. As we are truly developed, and as we go up in the scale of being, our virtues become purer, and more perfectly resonant with joy. And when any faculty that has maintained its integrity with great difficulty, has come to be able to maintain it without struggle and pain, then its hold on joy is an indication of great victory in the development of the mind.

If, then, on account of a happy constitution, or as the result of training, a man acts truly for another and not for himself, and he finds great pleasure in it, he is not any the less a disinterestedly benevolent man because of that pleasure. It does not follow that the foreseen result of an action or course constitutes the motive of that action or course. Here is a mistake that many men fall into. They suppose that if we see that some benefit will accrue from a given line of conduct, that foreseen benefit is the motive which actuates us, but that is not necessarily so.

Disinterested benevolence consists in the purpose and effort to benefit another from motives of real kindness, with or without the perception that it will incidentally benefit the actor or give him pleasure. The real controlling motive in an act of disinterested benevolence is a desire to benefit another, whether we incidentally benefit ourselves or not. When one seeks his own good, with or without regard for another's welfare, it is sheer selfishness. When one sceks his own good through the medium of another's benefit, he acts from the mixed mctive of selfishness and benevolence. But when one seeks another's welfare, with or without advantage to himself, for the sake of that other, it is disinterested benevolence.

The popular mind has always had faith in this virtue. It is the element of the heroic in men's apprehensions. Men do not usually stop to consider whether the thing is possible or not. They dream that it is. It forms their fancy, if not their actual philosophical belief. You shall not find a single man in history that has been canonized by the hearts of the people, who was not supposed to be disinterested in benevolence. There have been ten thousand men who were heroes by reason of courage; but they sunk down like the grass. A man may have wisdom, capacity, and courage, but he does not become a hero that generations embalm and refuse to let die, unless he is supposed to act from disinterested considerations. A man that acts from selfishness is never regarded as a hero.

I think it one of the most effecting testimonies of human life, that men know themselves to be solfish, and defend selfishness, and think that they may and must be selfish. Seldom do men give any man credit, except on long proof, for being disinterestedly benovolent; and yet, the most selfish men, and the men that believe least in disinterestedness, long to find somebody that is unselfish. And when there is found some man who seems to act not for himself, but for his follows, all men bow down to him, and

There is worship him, and call him divine. something in men that longs to see essential kindness; and though they do not see much of it, for the reason that there is not much of it to see, they are always drifting about it, and supplying by the imagination what is lacking, that they may have this conception in a concrete form. The human heart longs to see, not in God alone, but in men, the attainment of this heroic quality of true, disinterested benevolence. And no man, I think, believes in any human quality, the germs and possibilities of which are not in himself. If a man declares that there is no person living who does not lie, he confesses himself to be a liar. If a man declares that there is not a pure nature on earth, he asserts his own impurity. The possibility of the existence of the quality of goodness may be recognized by very wicked men. It is the faith of a man in the quality of goodness or unselfishness that indicates the existence of that quality in himself. Our hope that there will be a higher style of benevolent action, rests on the almost universal faith that there is the possibility of it. When I hear a man say that all men, and all women, too, are corrupt, always, and all through, I make up my mind that there is no hope for him. A man that does not believe in goodness can not be good. A man that smells corruption in every body, has it in himself. When therefore, I hear young men or maidens decrying disinterested benevolence, I feel that, unless they are mistaken in the definition of the quality, the only remedy in their case is regeneration or death.

Men should not make the mistake of attempting to compass the whole of this state of mind by a single burst of experience, as it were. The realization of it in your life is a gradual process. The inspiration to act from purely disinterested motives may come all at once; but you can make no greater mistake than to undertake to accomplish the whole of it at once. No man can become perfect immediately.

If you would become disinterestedly benevolent, first believe in the quality. Then find a place to exercise it wherever you happen to be. If you are a blacksmith, find it in your shop. If you are a sailor, find it on the deck. If you are a weaver, find it among your companions of the loom. If you are a poor servant, working unappreciated in the house, find it there. Find it where God's providence calls you. In the sphere that is allotted to you, find the opportunity of doing good to other people, without considering your own interest. Do it because you want to do it. Do it for its own sake. Aud when you have done it once, it will be easier to do the next time. No man ever resisted a wrong thing, and strove to do a right thing, that he did not feel stronger. No man ever performed a difficult duty that he did not feel more sovereign. A consciousness of a power to do right is a good feeling for a man to carry with him. And if you do a spontaneous benevolent action, not for a reward, but because it is pleasant to do a good thing, you will certainly be induced to do it again. And isolated actions of this kind will make their impression upon you gradually.

In attempting to live a life of disinterested benevolence, begin as a child. In every science, in every walk of literature and philosophy, every body must begin as a child. You must creep before you can walk. You must walk before you can run. You must run with feeble, halting steps before you can run rapidly and long without fainting. Gradation is the law. Begin with little things. Begin with things that you do at can home and in business matters. Begin with single acts. Then couple two or more acts together. At first but one or two faculties will be enlisted in the work, but after a time other faculties will cooperate; and as your life progresses, you will find that the whole bearing of your conduct will rise higher and higher, and you will conceive of life as having its true object in benefiting others.

THE RUMBELLER'S BAND.—I do not fear one grogshop or rumseller. The sight of one drunkard does not alarm, although it may pain me. But when I fix my eyes upon a rumseller, and think that he is only one of a vast army, banded together for mutual protection, and made by the very instincts of their trade enemies to. virtue and religion; when I think of him as one member of a vast organization, knit together by an evil freemasonry of opinion and interest, whose temple can only rise on the ruins of legitimate trade; when I think of him as only one among thousands who, like leeches, fasten themselves upon the loins of the nation, until these loins are black with the horrid circle. who feed and fill themselves upon the best blood: of her industry, dropping off or torn away only to be quickly replaced by others, I confess that the future glooms dark with disaster. Where, I ask myself, as I remember the law of cause and effect, is all this to end? Is it credible that. a government resting solely on the ballot can. long endure when intelligence is perverted, selfrestraint banished, and morality gone?-Rev. . W. H. Murray.

"Cleanse your Hands, ye Sinners."

BY REV. CHARLES H. BRIGHAM.

THIS emphatic injunction of the practical apostle accompanies and precedes the more spiritual call to purify the heart. And in joining these two advices, he only repeats a familiar line of the sacred song. Had not David long ago sung, that in the Holy Place only he should stand who had "clean hands and a pure heart?" We need not interpret this wholly as metaphor, but may take the physical hand in in its healthy state as a sign of fitness for worship. A foul hand may not win the favor of the Lord any more than an insincere soul.

In this essay, we shall say some words about the most wonderful (if wonders in the universe of God may be compared and reckoned by more or less) of all the things which the Lord has made, the human hand, a wonder which every one can see and can appreciate, and which only grows more wonderful as it is seen and examined -wonderful in its structure, its capacities, its variety of function, its uses and its achievements; the instrument by which small things and great things, rude works and refined works, good deeds and bad deeds alike are done; the first and most permanent element in the world's progress, of which all other forces and machines are only the tools; which drives the railway train, or draws the hair-line with equal skill and certainty; which swings the hammer or plies the needle; which communicates health and love and warning, and the very spirit of God, as it is lifted in benediction above waiting crowds by the Father of christendom; which holds life and death, time and eternity in its signature; which marks good blood or bad blood in its shape and texture; which may slay in wrath or may soothe in compassion; which holds the skill of the senses, and can scan the features, can talk, can read, and can bring Heaven near.

The hand of every man has manifold uses and offices, in work and in play. But for most men and women it has special uses, which may or may not be significant. One man makes shaking hands the business of his life, and never meets you, in the street or the rail-car, in the church or the house, without reaching out his hand to grasp your hand. To a Broadway dandy the chief use of the hand is in carrying a slender cane, or in touching his hat genteelly. A London cockney's hand is most employed in holding

his umbrella. Messrs. Heenan and Sayers think of the hand as an instrument of pugilism, to put heads and ribs "into chancery." The typical Yankee might define the hand as an instrument for "whittling;" and to a schoolmaster of the olden time, it was universally used in plying the birch or the ferule. The clacquers of the theatre prize the hand for its clapping property, while the bashful lover tells through this the secret that his tongue dares not reveal. Signing bank notes is the chief duty of the hand for a bank president, while a speculator finds it convenient in laying out plans of city lots at reasonable prices. To one woman the hand is a washing machine, to another a knitting machine, and to another a glove-holder only. Here the fingers fly on piano-keys ten hours in the day, there on the strings of the viol, or along the silver flute. The potter forms his jars and vases by the subtle slide of his hand along the whirling lump of clay, and the baker uses his hand to "pat his cake." Virtue goes out through the hand of the "healing medium," or of the priest, laid on the head of the penitent. One man's hand is most active with the knife and fork at the trencher, another in emptying "social" glasses. Here it plays cards, and there it throws dice. Its most vacant use is in scratching the head, or in the languid and idiotic gesture of a belle of the pavement.

The hand, moreover, is supposed by many to be an indication of character, if not of destiny. Did not an eminent divine see aristocratic right in the small hands of the Southern chivalry, and are not taper fingers associated with refinement and high breeding? Can we not judge occupation by the shape and color of the hands? Who can mistake the stained fingers of the photographer, busy all day with acids; or the sodden hands of one who is always washing; or the horny hands, calloused by toil at the loom or the plough; or the big brawny hand of the blacksmith; or the nice delicate hand of the jeweler? Palmistry, too, is not a new science, and fortune was read from the opened hand before any gypsies cheated the credulous by their lying predictions. Fate has been told as ingenuously from the lines of the palm and the course of the wrinkles there, as from any calculations of the stars. Half the persuasion of the orator comes in his management of his hands.

If he is awkward with these, if all their motion is hard and ungainly, not rhythmic with his tone, he pleads in vain, and only blind men will be moved by him. In pantomime the hand speaks without the tongue, and if it is well done, the meaning is not left doubtful. In the Nydia of Randolph Rogers, the hands show the situation, and no words are needed. These are largely the source of Fechter's dramatic power, as they were of the persuasive grace of Edward Everett. Unfortunately, the Boston statue of the great orator retains the extreme use of that handsome hand, and shows it in perpetual tension, where it can only annoy and not persuade. It is the puzzle and plague of sculptors to know what to do with the hands of their subjects, and the difficulty is sometimes settled by putting these out of sight, as the artist painted the man "behind the horse." Who has not felt this trial for himself in an evening party?

The most trustworthy morals of the hand is not what we judge from the shape or size of it, but what we judge from the care which is taken of it. It is not a sin of a man or of his ancestors that he has a large hand, or that he has a round hand, or that he has a hand like the paw of a bear or the claw of a bird. The way of using the hand guides us more correctly. There is apt to be deceit in the shake of the hand which squeezes it, or holds it as in a vise. We do not trust the man who hides his mouth with his hand when he speaks to us. Handwriting is a better guide to character than palmistry, and wise essays have been written on "autographology." Indeed, unless there be some faith in this science, the time and money spent so often in collecting autographs would seem to be wasted. Why gather so many scraps of manuscript, so many signatures and backs of letters, unless, like the bones in a museum, they will explain more than themselves, and let us into some secret of science or soul? An autograph ought to be more than a cast-off coat, or a worn-out shoe--ought to tell something of the spirit of the man whose fingers inscribed it. From a collection of manuscript fragments, one ought to be able to read with reasonable certainty the characters of the poets and orators and preachers, without having to study their works-as Ampére read the characters of the Roman worthies from their busts and monuments. The conclusions of this science, however, are not always safe. A bad handwriting is by no means the proof of a bad mind or a bad heart; and wicked words and thoughts may be covered by a clear and handsome script. It will not do to use this guide to character in

dealing with lawyers, or editors, or authors, who write for bread. It would go hard with some eminent men, if they were tried by this test

Some of the most singular congenital defects in the structure of the body are found upon the hand. As there are fowls with an extra claw, and cats with an extra toe, so there are families in which six fingers on each hand are kept from one generation to another. Goliah's son was an instance of the kind. Sometimes, on the other hand, fingers are wanting. There is a lawyer in Michigan, who has been upon the bench, who has only two fingers on either hand, and three of his sons have the same strange formstion. Yet these two fingers, united, too, by a membrane, do quite efficiently the work of the ordinary thumb and fingers. So cunning is this hand of man, that any part of it seems to have the capacity of every part, and the stump may learn to do all the work of the fingers, if necessity is laid upon it. Mutilated hands, where the fingers have been crushed off or torn off, become often more adroit than hands that are whole-write legibly, and carve skillfully the most elaborate devices. A single finger may be "handy" in the largest sense, and will be worth a hundred such hooks as that of Captain Cuttle. Two hands are certainly better than one; and yet one of the most accomplished of scientific professors, a chemist of rare ability in the lecture room, whose experiments never fail, a finished performer, too, on more than one musical instrument, and a most graceful horseman withal, has had only a single hand to do all that he has done. Not a few, indeed, who have two hands, might as well have only one, for all the use which they make of the other. The one is for use, the other only for "symmetry," as was said of the extra tower on the Bullfinch Street Church in Boston. The faculty in using both hands equally well, and in the same tasks, is very uncommon. Not one man in a thousand can write with his left hand, if he has a right hand. Even those who are "left-handed" by nature, relinquish their native bias when they learn to use the pen. And nine men out of ten are annoyed when they see a left-handed man at his meals, with knife and fork in the wrong places, or when they see a man strike blows or throw stones with the left hand. There is really no good ground for this annoyance, and no good reason why one hand should have the advantage of the other.

The hand is subject to various maladies, some of them painful, others vexatious. A "felon" on the fingers is a very severe punishment for

some unknown sin. How to get rid of "warts" effectually and promptly is still an undiscovered secret of surgery. Red hands are a bane in the ballroom, and do not look religious when lifted in prayer. Hairy hands no man wishes to have, and the faintest sign of such a covering on the hands of woman is carefully expunged. some hands the joints are as knobs, while on others they show dismal hollows. On some hands the veins are blue and swollen, while on others the skin is coarse and scaly. Here the ends of the fingers and palm become hard and horny, while there the fingers are flabby and "pudgy," to use a word of Dickens's coining. Palsy is apt to come in this sensitive part, and there is no sure art, now that the days of miracles are gone, of healing a withered hand. Anthony's fire selects this part of the body for its hateful burning. Chilblains crack the hands in winter, and the sun "tans" them in summer. White specks come upon the nail, and increase of years changes the soft skin into stiff and wrinkling parchment. Rings upon the fingers wear indelible lines, and acids and inks mark them with provoking spots and dyes. If all hands were cut off for the offence they give, how few hands would be left among men!

"How to wear the nails," is a question which thirty years ago was seriously agitated in one of the foremost colleges in the land, and the classics were ransacked for authorities and precedents. One professor used to show nails a good inch long, projecting like talons over the ends of his fingers, as he manipulated the airpump and the orrery. Others pared them to a point; and they were even mended into pens, always ready for use. The exact length of nail which it is proper to wear has not been fixed by the arbiters of fashion. If the nail extends beyond the finger, it is always exposed to accident; and no accident to the body brings more pain, comparatively, than injury to this part. The nail certainly should never be cut into the "quick," nor should it be scraped or filed. We knew a man who lost his life by boring a small hole in one of his finger nails. Other things being equal, however, short nails are more cleanly and more shapely than long nails. Among the ancient Hebrews long nails were the sign of insanity or of slavery. When Nebuchadnezzar went out from the palace to the field, his nails grew as birds' claws; and it was appointed in the "Second Law," that when a captive became a lawful wife, she should "shave her head and pare her nails." Long nails are a nuisance in many of the more necessary duties of the hand, and one dreads the friendly grasp which comes armed in this way. No mother can safely handle her infant, who keeps these instruments of torture, the traditional weapon of woman's defence. The long-nailed hand of woman is only one degree less alarming than the heavy-mailed hand of man. These were fit in the feudal age, but are not good in our peaceful time, when union, and not strife, is the law of social

Another interesting question of the use of the hand is of its ornament, of its rings and jewels. There are reformers so extreme in their notion of freedom, that they would allow no bands of any kind, no ring upon the finger, no fastening or clog. But the custom of finger-rings is too ancient, too wide, too deeply rooted, to be changed by preaching, or even by physiological protest. The Israelite maidens were fingerrings before they went down to Egypt, and they will wear these as long as gold and precious stones can be found. In the East, where the sign-manual is borne upon the ring, and it must become the seal of all promises and contracts, the ring will be worn by both sexes. In Western lands, on the other hand, the wearing of much jewelry by men is not a mark of good taste, nor is the show of wealth in that way an equal sign of wisdom. A handsome hand, indeed, on man or woman, is not greatly improved by being loaded with rings or hidden under the sparkling of diamonds or rubies; and an ugly hand can not lose its awkwardness in this costly A lover, in pressing the hand of his charmer, would prefer the tender flesh to the sharp facets of the lapidary's art, and his affection in that case would be less painful in its demonstration. One, two, or three rings, if . they are not too bulky, may be allowed, especially if they hold some dear association or memory. Beyond these, the easy play of the fingers must be hindered, their form distorted, and diseases, too, engendered. A fastidious taste will diminish, rather than increase, incumbrance upon the hand. A bishop with garnished and loaded fingers will give rather the impression of Pharaoh or Herod, than of a Christian apostle. St. James would not allow a man with a gold ring any place of honor in the assembly.

And then there is the glove question, more important than any. Not every maiden can carry on her tingers diamond and topaz and gold, but every maiden and matron must wear gloves, if she is to appear before the eyes of men. Gloves for the hands, for one-half of the race of civilized man, are as essential as any article of raiment. In the mind of woman, this is not at all an open question. It was settled

long ago. And yet this custom of glove wearing, so tyrannous in its order, does not seem to be very ancient. No allusion to it is made in either the Hebrew or the Greek Scripture. We read of sandals for the feet, but of no "hand shoes," as gloves are called in Teutonic speech. The hand of Ruth was bare when she was led by Boaz to his house, and we may be sure that the woman in Simon's house had no gloves on when she washed the feet of Jesus. Kid skins in the East were utilized for many purposes, for purses and bottles, and wallets, but not to hide the hand of man or woman. But in Western lands, for some hundred years, the chief end of the race of goats has been to clothe the hands of the nobler race; and in these last years, that honor has been shared by a meaner rodent. It was a blessed boon to the glove-wearing world when the nut of Western Greece was brought to France, overrun by rats, and the skins of these pestilent vermin were made soft and glossy in the juice of Acarnanian acorns. It is still doubtful, nevertheless, if hands are healthier in this artificial covering, binding them so closely. tight kid glove in the heats of summer is only torment. But the kind of covering for the hand which most women love is the kind which most men hate. There is evident incongruity between gloves and rings, and one must smile at the efforts of a solid matron to draw over her jeweled fingers the slender glove that a child might wear-getting red in the face five times in a day, that her hands may keep their white-

But we must not omit from this essay the usual appendix of "practical observations," that postscript which holds all the value of the preliminary talk. How shall we keep our hands in good order and condition?

1. First, by using them, using them regularly, using them vigorously. The hands need exercise for health, as much as the lungs or the feet. Mechanical work of some kind is best; the broom, or the loom, or the saw is better than Dio Lewis's "light gymnastics." Use of some kind, never indolence. The hands that always "hang down," might as well be withered, and will be, if something does not lift them. Absolutely idle fingers, indeed, are rare-even the laziest have some office for their hands, if it be only to stroke the beard, or to hold the aching and vacant head. In Eastern harems hands hold pipe-stems, if they do nothing else, and in Western drawing-rooms they find resource in embroideries. But to be strong and sound, the hands of men and women ought to have some vigorous use, something which tries the larger muscles, rouses blood in the veins, and seems to awaken all the life of the body. Writing all day, or sewing all day, or waving the fan in that gentle vibration which suggests languor, are not exercise enough for the hands of any rational being. Paul's advice to the Thessalonians is good universally, "That ye study to work with your own hands."

- 2. And, in the next place, there ought to be a various use of the hands, not all in one kind of work or play, but in that which shall bring all their parts into action, nerves and muscles and tendons, every joint and every knuckle. It is not well to give one part exclusive exercise at the expense of the rest, to put all the duty upon one or two fingers, or make all the motions in one direction. The whole complicated structure needs to have its free play, that it may keep suppleness and harmony. The scribe needs to vary his toil with the axe or the ball, the watchmaker to have some sharper movement of his cautious fingers. Variety of work is just as important for the hands as for the brain, And the more delicate the work, the greater the need of this variety.
- 3. A third counsel is, to use both hands, and not to give one very much advantage over the other. The right hand may not know what the left hand is doing, but they ought to be able, if necessary, to interchange works. Nature is foiled in all one-sided physical developments, whether of eye or ear or hand. A wise training will bring out the native power in either hand, educate them together, and with no separation or selection of studies. What is now demanded in the education of women, may more justly be asked for the left hand, so long outraged and underrated. Where there is no constitutional difference, there is no reason that one hand should be favored more than another. Why should the left hand be nimble as the right upon the keys of a piano, but be wholly incapable with the pen or the needle? No power is taken from the right hand by giving a better training to the left hand.
- 4. But there is a limit to the work of the hands, and it is dangerous to try them too severely. Stop work of any kind when the hands are fatigued by it. This fatigue may come before the brain is exhausted, but it is to be heeded, notwithstanding. It is foolish to write, or to knit, or to embroider, or to play upon instruments, with tired hands. At the risk of seeming rude, the wise here will refuse to give his hand to be shaken after its muscles have become lame and its nerves sore in that magnanimous service. A tired hand should do its work

by proxy, whether in the study or the drawingroom. A hand-shaking substitute is quite as useful as a literary amanuensis.

5. A still more important caution, not to irritate the nerves of the hand and arm by using improper implements, not to expose the hands unnecessarily. The late President Felton, in his visits as member of the Massachusetts Board of Education, closed his addresses by warning his hearers against steel pens, prophesying paralysis as the sure consequence of that abomination. There are many trades in which injury to the fingers is inevitable, which harden the skin and blunt its sensitiveness. But much of the risk to which the hand is put is reckless and beyond excuse. Tattooing, fortunately, is not one of the barbarous customs which French fashion has endorsed. Yet some who are not old can remember when schoolboys beguiled their idle moments by pricking into their hands, in the palm and along the fingers, fantastic figures in Indian ink; and that is still a sailor's amusement. All such amusements are detestable.

6. One parting word shall be, to round off this essay, and to return to its Apostolic text, "Keep the hands clean!" Impossible! say the butcher and the baker, the blacksmith and the bricklayer, and almost every artisan. Clean hands are impossible in our business. Soil and grime must gather upon the hands that toil. We may soften the counsel then, and have it run, "Keep the hands as clean as they can be kept." Wash them often, no matter how soon the dust will come back to them. It is an eminent merit of Pullman's cars, which justifies alone their additional cost, that a traveler can purify his hands when they offend his vision, and has not to wait doubtfully till the day of his journey is done. In every kind of labor and of life, clean hands are better than foul hands; and those who carry foul hands to their meals, or to the embrace of wife and children, or to the social gatherings of the saloon and the church, deserve the quaint rebuke of the epistle, that they are "spots and blemishes."

Training of Children.

BY MRS. H. C. BIRDSALL,

THE period between the ages of two and four in a child's life is a very interesting, and also a very important one. It is interesting because the child has been recently so helpless, and now every gleam of intelligence, bright speech, and action, strike us as something remarkable, and a little different to any thing of the kind in any other child.

It is important, because the child should now be gradually and surely confirmed in those good habits which are the foundation of every fine character, and the rudiments of which should already have been implanted. By the time a child is six years of age he should have learned perfect submission, not to a confused, inconsiderate, ordering spirit in father or mother, for I can not imagine any thing that would keep a strong will from yielding sooner than this; but to an equable and just temper of mind, that has no wish to be obeyed, simply for the love of mastery. Be discriminating in all your exactions, making them few and simple and consistent with the good training of your child; but when you have made them, see that they are complied with in the spirit, and nearly always in the letter, too. There are occasions when the obedience need not be exactly literal, but the parent, not the child, must be the judge of the fitting opportunities. Active, strong-willed children do not always like to mind, and often try to creep out of it by a kind of compromise. You say, "Here, my child, please put this book on the secretary for me." He takes it, and with a demure look, answers, "I dess I'll put it on the table."

The position of the book may be of little consequence, but the principle involved has its importance.

The following incident first led me to think of this matter.

A gentleman who had only one child, a daughter, ten years old, was talking with me about her, and said:

"She is a pretty good little girl on the whole, but she does not like to mind—she does not exactly disobey, but she obeys in such a way that we feel dissatisfied. She invariably contrives to do things in a little different way to the one advised." I have since found that the fault is a common one, and the best remedy is to nip it in the bud, to insist upon a child obeying an order literally, and at once.

The habit of telling a child to do things which you have no wish or idea of his doing, or vice versa, telling him not to do this or that which you know he will do, and to which there is not the slightest objection, is a very bad one.

You only give your orders "for the fun of it," and to see the result. This is often done by those who are incidentally playing with a child, and in such a case is not so objectionable, though even then in not the best taste. But when done by the father or mother, I can not but think that it will interfere very much with their attempts to inculcate obedience.

And this leads me to the thought that trifting of any kind is not advisable with children. Play and be merry with them as much as you like, but do not allow the play to degenerate into that trifling which begets disrespect.

Do not allow any rudeness, and a child will soon learn to stop at the limit you fix. It was formerly a common habit of mothers to tell their children trifling stories upon any occasion, in which they themselves had not a particle of faith. There has been so much written and said against this, that there has been a good deal of improvement, at least in those mothers who give any thought at all to their maternal duties; and the fault is now mostly that of nurses and house servants, who, unless they are closely watched, contrive to put more foolish and wrong ideas and fears into children's heads than a mother can eradicate in years. this, to me, is a very strong argument against allowing children to spend much time in the society of servants. Miss Edgeworth, in her work upon Education, advised parents never to allow children to be with servants. Miss Sewell, in an equally interesting book on the same subject, said that the mother should have no personal care of her children, that they should be taught to look to the servants for the supply of all their needs, for fear of lessening the dignity of the mother in the children's еуев.

But I think that they both looked at the matter in too extreme a way, and not just as they might have done, if they had been wives and mothers. The via media is probably the better. If a mother, from poor health or other good cause, is obliged to employ a nurse, it ought to be only for the menial part of the care of her children; she should keep them with herself

all the time she can, and she may thus save them from much of the harm they might receive from being constantly with a servant.

It would be a happy state of affairs, if we were not obliged to have any servants; or rather, if the servants were of such an exated and perfect character and intelligence, as to lend no contamination.

But we must do the best we can, have our children with us most of the time, and do all in our power by the force of good example to instill in them refinement and a love for the true and beautiful.

Whatever a mother wishes to teach her children, she must do and know herself. They are very keen-sighted little creatures, and one can not live by one set of principles and teach them another.

It is, therefore, every mother's duty to improve her own character in all directions. One of the best aids in training children is to look back to our own childhood, and recall our feelings in different circumstances.

Were you peculiarly sensitive as a child, brooding over an injustice, or a cross word, or even an ill-natured comment upon your personal appearance? Save your child from such feelings. Was your mind often filled with strange wonderings about the mysteries of life and death? So may the mind of your little one, though he may not say any thing of his thoughts any more than you did.

Did you gradually drift into a habit of reserve, of concealing your thoughts within your own breast? Then strive to be always ready for any confidence your child may bestow upon you—always receive it with pleasant face and real interest.

You may not always be ready for the confidence at the time it is offered, but let the bestower feel that you are not assuming a reason for delay, that you do remember him, and will listen to his story at the first opportunity. How often we see our own specially faulty traits appearing, as if daguerreotyped in a child, and how tender this should make us, not so foolishly tender as to overlook these faults, but so wisely as to lead us with firm, loving hand to pluck out the faults and endeavor to plant in their places virtues.

By recalling our own childhood, we should avoid one very common mistake, that of thinking children younger in thoughtfulness than they are. We are ready enough to observe indications of the precedity which exhibits itself in bright, funny sayings, but we do not generally give children sufficient credit for thinking as they really do.

Very young children frequently ask strange questions, and their mothers look upon them rather as odd freaks of the little ones' tongues, than as what they are, questionings of the working mind, which should be answered intelligently and intelligibly, and giving the child credit for sense. Every sensible question that a child asks should be answered in the spirit in which it is proposed; but the spirit so common of useless questioning should be constantly checked.

Very wearisome the catechism of "What for?" and "Why?" sometimes becomes, but upon our patient answering depend a good many things of more worth than our own personal comfort. Every mother should wish to be such a one as Mrs. Craik (Miss Muloch) describes in her charming story of Woman's Kingdom.

It may seem strange to instance a fictitious mother, rather than one who has lived and left behind her a noble name. But the mother of fiction is probably far better known to three-quarters of the reading women of the land, than the mothers of our great men.

We have implicit faith in the latter as good and noble women, and we may be acquainted with a few of their more striking deeds; but we have had only an occasional glimpse of their daily lives with their children, while we feel as if we knew the whole life of Edna the mother of Woman's Kingdom, with its ins and outs, its joys, its trials, and her brave endurance of them, and through all her keeping herself ever worthy of the respect and admiration and imitation of her children. There are just such faithful mothers in real life, but they are seldom described as simply and beautifully as Mrs. Craik has done it. A great lesson taught in the story I have mentioned, is the duty of perfect truth in the training of children. If you do not wish a child to know a thing tell him so, but never descend to the smallest equivocation. Your reward will be in the confidence the child will gain in your word.

Young children very commonly acquire a habit of crying when their mothers leave them to go out of the house, and it is frequently owing to the fact that the mothers have almost universally resorted to some subterfuge to conceal their intention. The effect upon the child's mind when he is old enough to understand that he has been deceived, is a pained and resentful feeling, and a want of faith in his mother. She should have left him when she pleased without any appearance of apologizing for her absence,

and feeling as deeply, nor at as youthful an age | and then he would have observed it as nothing unusual, but natural and inevitable.

> If one has more than one child, truth is important in keeping the right balance among

> Firmness and justice are essential, too. Because one is a girl, do not make the boys yield to her in every respect. Let her gain extra attention, because she deports herself like a true little woman, but do not run the risk of making her selfish and exacting, and the boys secretly contemptuous by reiterating, "Remember, boys, she is your little sister, and you must give up every thing you have to her."

> So in the case of an older and a younger child. You have two little girls, say one of them is four years old and the other one not quite three. The older one is sitting quietly upon the floor. very much engaged with a toy; the younger comes along, and, with the caprice of childhood, wants the plaything. She has one just like it, but that will not answer. Here is a matter that should admit of no compromise. The younger should understand very plainly that she is not to have the toy, that there is to be no exchange made, no consideration of her being the baby, no yielding to her to prevent her crying. You should try to teach children generosity, but there is a time for self-denial, and a time when right of property should be considered. Meum and tuum are innate in children, and are not wrong in themselves; they must only be controlled and guided properly.

> Always be gentle and low-voiced. A loud tone, assumed upon occasion, indicates a weakness within which would make up by bluster for the want of firmness and governing power. And never indulge in these very bad expressions, "Stop that noise," "Shut up," "Behave yourself," etc., which are so very common in moments of excitement among many who mean in their calmer moods to be good mothers.

> There is a great deal in the restless little creatures to try us, especially if they are boys.

> If they are well, and certainly we want them to be so, they have a store of animal spirits which must have vent. We ought to be glad to see such spirits in a boy, and should contrive some natural, healthful way for him to let them off. The methods must vary in different cases. In the country there are abundant opportunities for the escape of this kind of steam, and yet there are many boys and many girls who are never allowed the occasion. It is sometimes taken, but it is against all law and authority.

> In pleasant weather children should be allowed to make as much noise as they please out

of doors, and rainy days they can race up and down in the attic, or some unoccupied room, to their heart's content.

I do not recommend this as the constant way of managing them. If some such plan as this is pursued when children are nervous from ever-quiet or suppressed spirits, it would not often be necessary to adopt it. Children are soon satisfied and content to play in a manner less jarring to the nerves of older people.

There is nothing more annoying, I think, to a mother, than to have an individual in the family circle who is for ever (to use a very common expression) picking at her children, and, if the presence of the person in the family is not a necessity, I would say, dispense with his or her company until your children have outgrown their childhood. Any thing for a healthy, well-developed, obedient, loving, happy childhood!

There is no greater drawback to the happiness at least of children, than being talked at and found fault with by those who are not related to them. People make such miserable mistakes in dealing with children not their own, and often use them as the objects upon which to pour out all the feelings which they do not dare or are unwilling to bestow upon older people.

When a child is two or three years old, the parents are usually anxious to have him learn to read; quickness is highly applauded, and the child is pushed forward. It is enough for a child to know his letters at four years of age. It is even sad to me to hear of a child three years old reading the Greek Testament, as I have read of a few precocious little girls doing. Surely age comes soon enough without trying to hasten it. Sometimes children pick up the rudiments of learning as if by magic, and learn to apply them; and to this, of course, there is no objection, it is only to the pushing them forward and forward out of vanity. Six or seven years of a child's life should be spent in mingled play, such work as is suited to his age and the gaining of home instruction, before he shall be considered ripe for school.

The home teaching may be made the most valuable he can ever have. As I have said before, very young children frequently ask odd questions. When they are found on a track tending to some useful destination, they should be propelled on their way by such answers to their questions as will lead them to ask more. This sort of general information is very valuable and the best of preparations for the course of study the boy or girl will in due time be obliged

to pursue. Children are ordinarily prodigies in one of two directions, that of making bright, witty speeches, or talking religiously. They are specially bepetted for the latter, by maiden aunts and other female friends with affectionate hearts.

This is very pretty and interesting, but I would far rather see a strong, sturdy, practical child, who asks questions in plain, simple language and from a real desire for information, than one who goes moping around and talking of Heaven and the angels. I should be afraid either that such a child would not be spared to me long, or, that if he did live to grow up, his religious feelings would have dwindled down to a very fine point.

Some of the least trustworthy characters I have ever known as young men, were those who, in their early childhood, were looked upon by their friends as almost too good for earth. The most reliable, purest, and best young men I have ever known, were very practical little children, possessed of strong wills that had to be molded. The religious part of their nature had grown healthily and equally with the other parts, and they were well balanced young men.

This even balancing of character is important, and may, perhaps, be looked upon as hardly to be touched upon in writing of so young children, but even now there are ways in which we can prepare children for well-balanced training. Some children show a decided taste for some one pursuit very early, and, if the taste is a good one, it should always be kept in view, but not to the neglect of other pursuits or studies. All the training of children should tend to add to them as nearly equal an amount of virtues and knowledge as possible.

The opinions upon methods of punishment are very various. Some people say that corporeal punishment should never be resorted to; others hold so fully to the principle of "Spare the rod and spoil the child," that they succeed perfectly in breaking the child's will and destroy all his happiness in himself or others, until long years after he passes from under their hands. There are children, probably, possessed of such sweetness of disposition, such reverence for their superiors, that they need not more than a word to control them, but most children are not so happily constituted. Corporeal punishment should be employed as seldom as possible, and never in anger, but with your heart overflowing with piety for the sufferer.

Punish thoroughly when you feel it necessary to punish at all; and never fall in the habit of striking and slapping upon any provocation This only aggrieves a child and alienates him from you. As a rule the power of bodily punishment should not be committed to any one by the father or mother, and never a servant.

If children must ever be disciplined by a servant, it should be in a very much simpler and less severe manner. Threatening should never be used in the government of children. Tell them once the penalty of an offense, and, if it is repeated, punish, but do not lessen your authority by that weapon of weak mothers, threatening. Every one who reads this article, doubtless, is acquainted with mothers whose commonest threat is, "Now, if you do that again, I'll tell your father." How weak and how little calculated to make a child respect a mother! If an affair of discipline occurs which you ought to manage, attend to it yourself.

The physical habits of children should be carefully attended to. Their sleeping and eating hours should be regular and exact.

There is no need of a child, three or four years old, eating or drinking any thing after he is put in bed at night, until his breakfast the next morning. His food should be simple and so slightly seasoned, as to not produce any artificial thirst.

I know a family of children who eat when they please and what they like; they are seldom in a condition to take any regular meals, and hardly ever eat their supper until they have been in bed and had their first nap. They have a supper brought to them in bed, and after that they eat and drink at any time Their mother has been during the night. aroused from her bed seventeen times in one night to give these children and drink, and they were not sick any more than their overloaded stomachs made them. There are all degrees of system and want of system in the management of children, but I hope the case I have described is an unparalleled one.

The habit of daily bathing is not absolutely necessary, for thousands of children exist and flourish without it; but I heartily approve of it, and, in the case of my own children, practice it.

When a child is taken sick, my universal remedy is, a warm bath followed by brisk rubbing, with plenty of rest and quiet, and it is always quickly efficacious.

The exercise of children should be of the natural kind. They should not be taken for long walks, nor should they be compelled, for ever so short a distance, to walk at the natural rate of an older companion. There is a great difference

in the ambulatory powers of children, but none should walk steadily long at one time. If children are put out of doors, they will find plenty to amuse them, to exercise them evenly and thoroughly. And yet I should not say put out of doors, for it is a great mistake to force a child to the pursuit of pleasure against his inclination. Most of us have a certain amount of obstinacy in our composition, and we can not wonder at seeing it crop out in our children.

It is quite natural for them, when they see us very anxious to have them go out, to be just at that time equally desirous to stay in. It may be suggested that it would be well to appear to wish to have a child remain in the house, in order through the spirit of opposition, to prevail upon him to go out. I think it would be any thing but well, for the course savors of deceit and detracts from the entire truthfulness which should be a trait of the mother's character. The better way is to ask the child if he would not like to go out of doors, leaving the matter at his option—he will generally choose as you wish, for children like the freedom of out-door exercise.

That invaluable quality, tact, is in no case of more worth than in the care and education of children. Tact, in the first place, in understanding that all children are neither physically, mentally, or morally alike; tact in adapting the right supplies to the individual wants; tact in letting well enough alone, and, finally, tact in all the precepts upon precepts, and lines upon lines of a child's life.

The clothing of children should be adapted to the season. They should be dressed warmly in winter. In summer, their dress should be changed according to the nature of the day, the weather is so much more variable than in winter, and we then have no fires to make up for deficiencies in clothing.

At night they should have no heat except that derived from the bedding, and this should be of a kind both light and warm.

The kicking off of bed-clothes is a pretty sure sign that the child is uncomfortable, and it is generally from the excess of bedding.

It is very well, in the coldest weather, for the room in which children sleep to be warmed while they are being undressed and put to bed, but the fire should be allowed to go entirely down and a window opened a little or widely, according to the weather. The night-clothes should be varied with the seasons. Night-drawers, made either of fiannel or cotton fiannel, are the best for winter wear; loose night-gowns of this coarse muslin for the warmest of summer weather.

Hines.

BY ANNIE CHAMBERS KETCHUM.

His hand, which held a cup,
Looked like a crasy jack-knife
With long blades half-closed up.
His thin limbs all distorted
Were tangled 'neath a gown,
And from his knotted shoulders
A pinafore hung down.

Light-hearted, laughing children
Were playing in the street,
And mock-birds in the live-oaks
Made music wild and sweet.
He tried to join their chorus,
But from his palsied tongue
Came only wordless discord,
As if by witches sung.

The boys played ball and hop-scotch,
They flew the paper kite,
And hallooed as its white wings
Grew dark upon their sight.
All, all but poor Hines, shouted;
Their fun was not for him,
For strange and ruthless fetters
Enchained him, mind and limb.

Through all his childish summers,
Beneath the cottage eaves
Each morn his mother placed him
Where, shimmering through the leaves,
The sunshine, like an angel,
Came down and kissed his head,
And vestal orange blossoms
Their incense round him shed.

He laughed to see the sunshine,
He nodded to the trees,
But most of all, young children
His idiot heart could please.
His thin blood, as he watched them,
Would strangely flush his cheek,
And strangely would his sealed lips
Essay their joy to speak.

Now, whining, he pursued them
With a sad though witless stare,
As down the green lane flying
Their laughter filled the air;
When suddenly they halted,
"Poor Hines!" they said, and then
Back to the vine-clad cottage
They quickly came again.

One bade the boy good morrow,
Another smoothed his hair,
Another filled with water
The cup he offered there;
While one bright, blue-eyed urchin
Stepped in the cottage door,
And brought him out a toy-whip
He could not reach before.

Then, to their sports returning,
They gamboled glad and free,
And poor Hines cracked his toy-whip,
And muttered in his glee;
While through the vine-draped lattice
The morning zephyr sung,
And golden flecks of sunlight
Lay all the leaves among.

Then, while my tears were falling,
I felt that all of heaven
From our strange, sinful natures
Has not been darkly riven;
And that, while little children
Are left below the skies,
We may be safely guided
To our lost Paradise.

A Prayer.

FATHER, when the heart is wailing,
From its anxious, broken dreams,
That, like autumn leaves, are falling
Down life's darkling, turbid streams,
Then, oh then, in pitying kindness,
Send some angel from above
To relieve the soul's deep blindness
With the magic touch of love.

Medical Education of Women.

BY MRS. R. B. GLEASON, M. D.

GOOD old New England deacon, the worthy father of a dozon children, when discussing the subject of family discipline said: "I always let my children do pretty much as they are a mind to, if they don't do any thing bad." His children did good credit to his peculiar method.

When so much is being said as to what women may, can, must, might, could, would, or should do, we are inclined to settle the whole question, as did the deacon the order of duty in his domain: "Let them do pretty much as they are a mind to, if they don't do any thing very bad."

Persons may be inspired, encouraged, prompted by others, but they must come to have a " mind to," or they will not accomplish much in any direction.

During my first stirring to do something more than the ordinary round of girlish work, I remember raising the question, as I sat on my fathor's knee, to what women might do. "Any thing they wish, provided they can do it well," was his wise reply.

The answer settled me for life. From that day to this, I have had no perplexity, whether it was "pretty or proper for a lady" to do this or that.

All the discussions as to woman's sphere, which have marked these rolling years, have not moved me; I rest just where my noble father settled my first questioning on this point.

Let her do what she prefers, provided she can do it well. More than this, if she has a "mind to work," the way will open. She may remain in bondage for a time, but her emancipation comes when all things are ready.

A gentleman with whom I was once conversing in reference to his bride elect, said in answer to a question of mine, "I don't know about her health. She has always been so bound by proprieties, that I can not judge as to her strength. Her mother tells me that she is very delicate, the family physician says she has consumptive tendency, she assares me that she is very well, and I can not decide. I am going to marry her and set her free, and see what she will make of herself."

He did as he said, and she has made good use of her freedom, as a dozen years have shown —grown strong in body, strong in spirit, by the good she has done in private homes, public charity, and Christian work.

According to the "three worthies" above mentioned, let woman do what they are a mind to, provided it is nothing bad. Let them feel that all work which "profiteth" is proper, if well done. Lastly, let husband, father, and friends encourage them in the cultivation of their "best gifts." "Let he that would be the greatest be the servant of all," said our Lord. Women should try to thus rank among the great ones. Hence, attainments, which will help us to serve those about us, are most to be desired. Among these the skill to cure the sick, or better, to keep the household in health, stands preeminent.

When asked, if women can endure the labor of the medical profession, we are as positive as the boy of ten years, who when told that cigars and coffee were injurious, promptly replied, that he was sure they were harmless, as he had used them both a long time, and they had not hurt him. My observations in reference to the ability of the medical sisterhood, to accomplish well their work, is from a larger range and of longer duration than that of the lad above-mentioned. I know many young women of delicate health, embarrassed for want of means and from lack of early advantages, who have grown strong by study and labor which interested and satisfied, and whose lives are both a professional and pecuniary success. Many of them have been able, not only to refund to the friends from whom they had "received aid and encouragement," but to help the indigent, care for orphans, etc. Hence, I do not write to show that women can make good dectors, for I need not take the pen to prove what so many persons are daily demonstrating.

The point I wish to impress is, that medical knowledge is eminently practical for women, whether in public or private life, whatever their estate, whether high or low, rich or poor; that this intelligence will make them better as wives, mothers, aunts, missionaries, teachers, etc. When their homes hold no piano, or their busy fingers find no leisure for the keys, "the harp of a thousand strings" will always be at hand—often out of tune, requiring their skill, or better still, may be kept in tune by their judicious care.

I have heard the young wife say, when sickness came to her home, "I would give all my school accomplishments to be now a good nurse, but I have not a single idea in reference to the sick; every new symptom frightens me, even if it be a good one, for until the doctor comes and explains, I don't know whether it is a change for the better or worse." Many a young mother broken in health and heart, after the death of her "first born," joins our invalid band and says: "I wish you not only to make me well, but to give me information how to keep wellhow to care for the sick. I think my dear baby might have lived, had I known how to take care of it. My parents were indulgent and gave me books, schools, travel, every social advantage, but I knew nothing of the care of children, and when my baby was born, my mother could not be with me, the experienced nurse who was engaged disappointed me, the one I employed proved ignorant and inefficient, and so the baby and I had a bad start. The dear little one has now gone where it will receive the care it needs which its mother could not give, and I am left a lonely woman, a miserable invalid, taking my first lessons in sickness and sorrow." Then comes the bitter exclamation, "Why do our girls grow up learning so much they never use, and so little of that they most need?" Echo answers "why!" I do not know, and I can not find any one who does. The pleasis culture, discipline, development. But the best mental, moral, and muscular development which I ever find, is the result of useful activity.

Our girls spend hours daily, for years, at the piano, and yet few of them ever make much music; many do not even try after the period of taking lessons is past, are always "out of practice," or the instrument is "out of tune." Years are given to the study of foreign languages, which they never speak, read, or write, after their school days have gone by. Over the higher mathematics they work and worry, and afterward lack the ability, or the patience, to make their personal accounts balance.

Among all these girls who go through a routine in which they have little interest, chiefly for the honor of graduation, are there not some who would do better to take a select course such as would meet the physician's need, then add medical lectures, and so come on to the stage of active life, ready to serve the public as physicians, or meet a want in private homes—that of intelligent nurses?

Or better still, if health, means, and taste allow, take the full course afforded by cur best schools, and to this add also the medical. Do

not be deterred from the duties of the physician by the fear of night calls, or lonely rides unattended. Whenever your services are required, a way will be provided. If your company is desired at a party, or a theater, at a late hour, an escort is not wanting. The same is equally true in reference to the sick chamber, according to my experience. The gallantry and the courtesies of life are not all expended on its follies, thank Heaven! Among the most pleasant memories of the past twenty years of active work among the sick, is the kindly, thoughtful attention, received from gentlemen in every rank and position. Did I need an escort at night, the arm of a poor man or the carriage of the rich was always ready. Was the patient in peril, and I desired some one wiser than myself to give advice and share the responsibility, gentlemen of age, and experience in advance of mine, were ready to stand with me at the bedside of the sick.

I remember the resolutions of certain medical societies, in reference to consulting with women of their profession, but I felt as certain then, as now, that they would not to any extent be observed. The truth is, men and women were made to help each other in Eden, and, despite "the fall," they still love to do so. When a woman, in a womanly way, does her work well, whatever it is, she will, as a usual rule, receive aid from gentlemen of refinement, if she requires it. But it was not to prove that the way to professional labor was open to you, or to disabuse your mind of imaginary obstacles, but rather to make you see how useful is medical knowledge for women in all the walks of life, that I write.

Many of those who promise well for the profession turn to private practice, and we find they tend the cradle all the better for their medical training. Students of mine thus employed, say to me, "I am daily thankful for my medical knowledge. There is no part of my youth that seems so well spent as that devoted to the study of the human body, since I have these dear little bodies to care for." mothers can meet the ordinary emergencies of sickness among their children, much better than the physician who can come but once or twice a day. An intelligent eye is required to watch the wants of these little ones, who can not detail their symptoms. In case of severe illness, she will require counsel, for that is always best when those we love intensely are concerned, as feeling is likely to bias judgment. Besides this, the wisdom which can come only from experience in practice is desirable. With such counwel, and the care which an educated mother can give, the chances for life and health are tenfold greater than when loving ignorance presides. Links, bright and strong, are formed in times of sickness between the mother and the invalid, when she is the safe counsellor, the wise and tender "care-taker." It is an old story that missionaries find their medical knowledge a great help to reach the hearts of the heathen. That the natives listen to the spiritual truths Christians present, because from them, they have received physical relief.

The mother loses much, when husband and children, for lack of knowledge on her part, must turn to stranger hands for care in sickness. We do not mean that all woman can make good doctors or good nurses—there are a "diversity of gifts." But we do mean that a wise head and a warm heart will find many sweet ways of relieving the sick in her own family, which a strange hand can never devise.

There is no way in which a family can be well cared for, unless the mother knows how, and will "see to things," as my dear mother used to say.

Men of scientific attainments and professional experience, often say, as they leave a daughter in my care, "I want you to look after her, and counsel her as a mother (and then add half apologetically), my wife is an invalid," or "she is not interested in physiological matters; is inclined to let the girls have their own way too much," etc.

It is not uncommon to find cases of serious chronic diseases among the daughters of our best physicians. Are the fathers to blame? I trow not, unless it was in not finding a better mother for the children. While they are engrossed with public duties, their families sometimes suffer for want of sensible, personal supervision. I remember a young woman of marked intelligence and ability, the daughter of one of the finest physicians in Central New York, who was a confirmed invalid from indigestion and constipation; the result of rich food, over-eating, and sedentary habits in childhood. When I expressed my surprise, that the daughter of so eminent a physician, and one too who had inherited such an excellent constitution, should be in such a bad condition, she replied, "My father was busy with his patients; he left his children to the care of mother, and she thought if her girls were first in the class, excellent in music, nice with the needle, they were in the right way, even if they sat up until midnight, and ate mince pie just before going to bed. As to our bodily functions, she never inquired. She seemed to have no sense of responsibility beyond seeing that we were genteel young ladies."

We are glad to say that most doctors have a better helpmate in home practice, than the one above alluded to. The wife of a physician, even if she has had no previous opportunity for gaining medical information, will soon become intelligent, if he be "apt to teach" and she have a mind to learn. A loving tutor will soon lead her to a knowledge of the general lessons of hygiene, to which she will render cheerful observance. But the great trouble is, that many of our young women, between fashionable follies and fictitious reading, have little time and less taste for more serious pursuits. I remember a physician's wife, who when questioned in reference to the care of the sick, always replied, "I don't know, but my husband does." It is pleasant to feel that one's husband knows, and it is also convenient to know some things "one's own self," as children say.

The "art of healing" must always be a useful one for women, whatever their age and condition, until their transfer to the land where "the inhabitants never say I am sick."

Boston, New York, and Philadelphia offer good facilities for the medical education of women, where they can have all desired privacy—excellent lectures, clinical observations, and hospital practice for women only. Before these can be of advantage, a good degree of mental and physical strength must be attained. The delicate sensibilities of young misses should not be tried by early attendance at a medical college, though they may be gleaning physiological and pathological knowledge from an intelligent mother or a private tutor.

BLMIRA WATER CURE, June, 1870.

Prohibition.—A traffic at war with all other traffics, emptying the tills of its neighbors to fill its own, a business thriving to the detriment of all other enterprises, supplying what only diminishes the aggregate strength, wealth, and virtue of society, may be justly regarded as an Ishmael in the world of trade, whose presence brings with it universal disturbance and loss. If appetite could be ruled out of this question, if prejudice and irritation could be banished, and the issue be put, stripped of all personal predilection, to the business men of the country, whether a traffic thus; in its nature and effect, at war with all other trades and branches of trade should exist, there can be no doubt in any one's mind what would be the renlt. - Rev. W. H. Murray.

Growth and Development.—VI.

BY ARCHIBALD MACLAREN, OF THE OXFORD GYMNASIUM.

DO not need here to quote from the long L list of men of every rank and profession whose useful and valuable careers have been brought to an untimely close by death, or more often, and perhaps more sadly still, by the permanent ill-health which baffles all medical skill and science, which springs from and is at the same time a cause of a "mind diseased." Numerous are the instances which have fallen under my own notice of individuals who have thus fallen victims to their own short-sightedness. One of them, long famous in the scientific world, absolutely refused to give his mind the intervals of repose which were seen to be essential by all who were capable of judging. "The night cometh when no man can work," was his answer when urged to give his physical condition some attention; and the night did indeed come, but his working day might, and would in all human probability, have been very considerably prolonged had he been less blind to the laws of his existence; for the last years of his life were passed in the mental night of second childhood.

All this, however, it will be seen, only points the more emphatically to the necessity of a regular system of physical training at the proper time, that time being the period of the body's growth and development. And here I would call attention to the manner in which this principle has been comprehended and observed in the Army, where the efforts of the authorities have been mainly directed to the introduction of the system at the depôts, where the raw country lads come in from the recruiting districts. It is not more directly valuable to the soldier at the outset of his career, than to those who are preparing for no less arduous, although very different duties, in the compaign of intellectual life.

And there is yet a third direction in which it should be carried; there is yet a third class to whom it would be a boon of the greatest value; to men in offices, and warehouses, and shops; men whose school-life terminated in boyhood, and with whose school-life were relinquished or lost the habits and the opportunities which are essential to full bodily vigor, and who in their business avocations obtain little or no physical employment of a health-giving or invigorating kind; men who spend the whole day, and, it

may be said, every day throughout the year, in the same round of occupations, and to whom not even the once-a-year holiday of a week or two in summer is allowed. To men thus employed, systematized exercise, conducted on a rational system, would be of incalculable value.

Gymnasia organized for the use of this class of learners, however, would have special difficulties to encounter, for here would be absent the control which would be available in school gymnasia, and the habitual discipline observed in military ones. For it must not be forgotten that there is always to be found, in every group of men or boys, some who are more eager for momentary distinction than for permanent improvement; always some whose efforts, if not judiciously controlled, would be determined by susceptibility to excitement rather than by bodily power; and where the attendance would be entirely voluntary, the management of such learners becomes doubly difficult. Indeed, there is but one means of obviating such difficulty. and that is by a system where the exercises are carefully graduated and strictly progressive; where every man, weak or strong, would work within the actual circuit of of his own capacity. Another difficulty with, or rather drawback to these gymnasia is, that the time available for recreation with men engaged in business is almost limited to the evening, the time least desirable for exercise, for then the bodily energies have become depressed, and the mental faculties subdued-the time and the condition when the mind is least able to stimulate the physical effort, and when physical effort reacts least favorably on the mind. But this is a difficulty that in a measure is already passing; social changes are from year to year taking place, which are rendering the continuous hours of labor in many occupations less severe and less prolonged. Employers, it is found, have not been ruined, as was sagely anticipated, by the early closing of offices and shops, and the Saturday half-holiday has neither undermined the morals nor ruined the constitutions of those to whom it has been extended.

And here again the educational aspect of systematized exercise assumes its true importance; an importance resting not only on the stronger frames and greater energies with which it would endow every man—a priceless capital to carry

into his avocations—but also on the bias, the taste, and the inclination which it would give in adult life, prompting to the employment of leisure in healthful and manly recreation.

At the very outset, however, I perceived that there were two distinct directions in which a rational system of bodily training might be carried with special advantage. In the Army, because bodily power, hardihood, and activity are the very essence of the soldier's life; and in our schools, because, as I have already tried to show, that is the time and there the regime which presents the greatest facilities for bodily culture.

It needs but a glance to see that the men who fill the ranks of our Army are drawn from almost every species of trade, occupation, and calling, and embrace almost every grade of physical power; massive, powerful men from the farm, the quarry, the forge, the warehouse, and the wharf; and slight, half-formed, halffed youths from the factory, the shop-counter, the desk, and from the innumerable petty trades in which men find employment in closely populated districts. I believe it may be roundly stated that every occupation followed in this country is represented in the Army; and, if what I have stated regarding exercise and its results be correct, to state that every form of occupation in this country is represented in the Army is virtually to state that every form of growth and development is represented there also. (I mean, of course, within those limitations observed in the enlistment of recruits and subsequent medical examination.) Now most of the occupations in which artisans and laborers are engaged give active and powerful employment to certain parts of the body, the other parts receiving comparatively little; and the inevitable result of this unequal employment is unequal development, because power is in relation to activity. The parts that have been actively employed will be shapely and strong; the inactive, neglected parts will be weak and stunted. And this will be evident to every eye that knows what proportions to look for; the nature of the employment leaves its mark upon the man for good or for evil—a sign, a seal, in witness of his strength and beauty, or a brand denoting his weakness and deformity—fashions him, molds him, for shapeliness or distortion, so unerringly, that to the experienced eye the nature of the craft or calling is instantly revealed; or, the occupation being known, you may tell before looking at the man the condition and the direction of his development. In men drawn from so wide a field will be found every gradation of physical strength, the strongest and the weakest. To take the two extremes for illustration, and to begin with the man of large stature and powerful frame; how has he acquired this powerful frame? Chiefly by energetic and powerful exercise. Other things may have contributed, indeed must have contributed, such as abundant diet, and, probably, fresh air; but neither of these, nor both of these, nor all other the agents of health put together, will give muscular power without muscular employment. Now remove such a man suddenly from his occupation, take him to the depôt to be straightened and taught to march with his head upright, his arms close by his sides, and the trunk of his body held erect and motionless as a pillar, and what are you doing? That which is suitable and necessary to enable the man to take his place in the ranks as a soldier, but nothing whatever to sustain, far less augment, his bodily energies. The constrained position, the restricted and closely localized movements of parade and drill, all deny to the trunk of the body and the upper limbs any exercise whatever, any share whatever of that which has given them the strength which they possess, for a continuation of which they are pining, without which they must dwindle, to the loss of their shape, and size, and power, and the still more important loss to other parts of the body depending for their health and activity upon the health and activity of these. But there is another condition of large stature and rapid growth which I would desire to instance: I mean the man of large frame with little strength, the results usually of a strong and unsubduable germ of growth in the individual, which, with adequate diet and suitable and abundant exercise, produces those splendid specimens of men whom we are fain to view as the type of our race, but who, with an inadequate or irregular supply of those agents during the period of their upward growth, attain the bulk of frame, but miss the soundness of constitution and the physical energies which should accompany it. There are many of these men in the Army—there must ever be many of these men in the Army. We have only to think for a moment of the insufficiency of diet alone, insufficiency in quantity and quality, at a time when abundance was a necessity to either present or prospective health or strength, to know that we have got the shell of the man only. Sound, strong, or lasting he can not be, because in him we have distributed over a large surface that which is only adequate for a small one. Is it possible yet to restore him to the place he was designed to occupy, designed by

the incontrovertible evidence of his stature attained in spite of his deprivations? Is it possible to give him that soundness of constitution, energy of muscle, elasticity of action, and symmetry of form which were his by birthright? Not possible—not possible to give after growth is completed that which should have been regulated by growth itself, beginning with its beginning, adding to, proportioning, consolidating, and sustaining every cell of every fiber or tissue, as it was added to the frame; but still possible, still feasible, still a certainty, yet to recover a valuable portion of the health and strength, activity and energy of which he has been deprived; still possible to double his material well-being as a man, to double his serviceability as a soldier. At once, the first day he is recognized in the depôt as an embryo soldier, let him be taken to the gymnasium, prepared, fitted, built for his reception and use; let him be placed under the care of instructors taught to administer exercise on a clearly defined and comprehensive system, a system calculated to meet the requirements of every learner, weak or strong, to meet the requirements of the whole frame of every learner, and to give to the whole frame suitable and uniform and adequate employment. Let this be done and there will be created within him a new growth, a new life; a growth for the rectification of all that is wrong, and for the strengthening of all that is weak; a life within each separate cell, straining for the recovery of that which has been neglected since his birth.

Let us take another instance. The youth who has every thing to gain-slight and slim, under-sized and under-fed, who can scarcely be reckoned the raw material out of which a soldier is to be made, but who from his youth, and from that strong germ of physical power which I have learned to look upon as inherent in the frame of every Englishman, is awaiting but the stimulating, quickening, life-giving properties of judiciously regulated exercise to swell and expand into healthy, vigorous existence. What does such a youth gain in drill and parade for the development of his latent resources? He is not twenty yet; capable of receiving vast additions to his physical powers. This, as we have seen, is the case with the youths at our universities, who from their childhood have been living in that state of mental and physical employment most favorable and most distinctly conducive to timely development. They seldom attain their full bodily powers before their twenty-third year. But the youth of the nature I am instancing will be found to be greatly in arrears on all points. What is there in his professional

duties to supply the want? So little, so very little, in comparison with his great requirements and almost unlimited capacity for improvement; and that little so partially and so unequally administered, that even its value is reduced. For he can not attend a parade, walk to a rifle-range, cross a barrack-yard, or ascend a barrack-stair, without giving employment to the muscles of his lower limbs, although such employment be altogether inadequate to produce their full development; but it is abundant in comparison to what the upper limbs can receive. These must languish, these must remain relatively feeble, because they are kept without employment, and power is in relation to activity.

It is this adequacy, this partiality of exercise employed without reference to this law, which renders gymnastics or systematized exercise so variable here; for by it only can employment suitable in nature, degree, or duration for every part of the body be provided; and while the comprehension of this law teaches us how to look for partial developments and defective and imperfect growth, it has but to be ascertained what these local wants are, what parts of the body are relatively weaker than the remainder, and such employment can be furnished as will raise any such part to the rank of the rest of the body in strength and in serviceability. And when the entire body is below the point of power to which it should have attained, suitable employment can be furnished for every part of the whole collectively-employment that can be increased and intensified with the advancing capacity of the learner. And it must never be forgotten that in developing a limb to its full power and perfect conformation, we do that, and, except indirectly, we do nothing more; whereas a glance at the trunk of the body will show that in developing the parts of which it is composed (I might almost say, constructed, so numerous are its parts and so complex is their arrangement), we do that and a great deal more. We not only develop to their normal shape, size, and capacity, the important muscles of the trunk, but at the same time, and by the same process, we bring it to its perfect shape and size the framework which encases and protects those vital organs, whose health and functional power we know to be all-important. The health of these organs, and their power of performing their functions with due completeness, are essentially dependent upon their perfect freedom; and this freedom they can not have if confined and restricted by the narrowness, or other deviation from the natural shape and size of this inclosing framework; they can not attain to

their full size and power if thus fettered, and no activity on their part can do other than aggravate the evil of their confinement. In thus providing therefore for their freedom in functional activity by the expansion of the chamber in which they lie, we directly aid in their development, directly increase their power.

But can I prove, can I adduce any evidence, that the system of bodily training which I advocate would meet the end desired, would adjust and regulate and place under his control the entire available resources of the strong, would take up the comparatively unformed, undeveloped, and altogether negative frame of the youth, and cultivate him into an energetic, active, and strong man? I have no hesitation whatever in saying that it will do both of these, and I believe I can give sufficient evidence that I do not over estimate its power.

Health and Prosperity as Affected by Religion.

BY REV. J. C. HOLBROOK, D. D.

WILL it pay?" is the first question which usually arises in men's minds when invited to embark in any enterprise. It is the aspect of "profit and loss," in which most things are viewed, especially in this moneymaking age and country. And as if to meet this very condition of the public mind the Scriptures declare that "Godliness is profitable unto all things, having the promise of the life that now is, as well as of that which is to come."

And excluding exceptional cares and periods, it is capable of a perfect demonstration that this assertion is most literally true. Both reasoning and experience combine to prove conclusively that the truly religious man, other things being equal, will be more prosperous in business, more healthy and longer lived, and will enjoy, to a far higher degree, all the blessings pertaining to this world, and be a happier man in this life, than he who pursues an irreligious course; so that, wholly irrespective of the future advantages that result from it, it is for the interest of every individual to accept the Gospel and be a Christian. Let us examine this point.

I. The Christian religion is favorable to pecuniary prosperity. This is apparent from a comparison of those countries in which it prevails, with those where it does not. Its influence tends to promote social advancement and thrift, and to enlarge and develop all the resources of a nation. But without enlarging on this fruitful theme, let us look at the individual and we shall see the truth of Solomon's saying of true wisdom or religion, that while "length of days is in her right hand, in her left hand are wealth and honor."

Of course it is not meant that the possession of religion will in all cases invariably insure great riches, but its legitimate tendency is to produce thrift and presperity. Many circumstances must be taken into the account, which will affect the result. For instance, one may be a truly pious man, and yet possess little capacity for business; or he may entertain views in regard to business that are inconsistent with success; or he may fail in judgment in some particular cases, and his mistake may seriously damage the result of his enterprise; or he may be, in spite of every precaution, involved in the great commercial revolutions which periodically sweep over the land, or may be subjected to loss through the crimes and errors of others with whom he is associated. But give two men of equal capacities for business, and leaving out of view all contingencies over which they have no control, and the one who is a thorough Christian will be more likely to succeed and become pecuniarily independent, than the other who is not controlled and influenced by the principles of the Gospel.

For, in the first place, the religious man will secure the confidence of his fellowmen, to a higher degree than the irreligious one. what they will, mankind respect and honor in their souls, a consistent Christian. Many facts might be stated illustrative of this, but one must suffice. Some years ago we knew a wealthy lady, who was professedly an infidel, but wishing to make her will, in which she bequeathed twenty thousand dollars for the foundation of an insane asylum, she selected three deacons of neighboring churches, out of four persons, to become the trustees of her fund. There is scarcely a prominent merchant in any of our cities, however irreligious himself, who would not prefer a conscientious Christian young man for a clerk, to one who manifested no regard for religion.

But not only does godliness secure for its possession the confidence of others which is essential to business success, but it also guards him from vices which are inimical to it. How many a man of splendid talents, who might have achieved eminence in business has failed to do so, because of his vicious propensities and habits.

How much, too, is wasted on immoralities and in useless extravagances, that would have been saved and have helped to augment accumulations, had those who indulged in these expenses acted on religious principles. The cost of the vices and senseloss and unchristian extravagances of this nation, if saved and equally distributed among the honest and industrious portions of the people, would render them pecuniarily independent! Stop those leaks and how soon would the land overflow with wealth! There would scarcely be such a thing as poverty known in the country.

If it is replied that Christians expend large sums in benevolent contributions, the answer is, they save by their freedom from vicious indulgences ten, if not a hundred times more, than by the present standard of giving which prevails, they are called on to part with for benevolent purposes. The irreligious portion of any community expendincalculably more in response to demands upon their resources by their deprayed habits and tastes and appetites, than Christians give away.

Some years ago, a man was converted and joined a church, and being subsequently presented with a subscription paper for some object of benevolence, he put down a sum that astonished the solicitor and led him to remonstrate against it, as being far beyond his ability to give. But he insisted that the amount should stand, adding, "I am a pecuniary gainer after all. In the days of my irreligion I expended vast sums per annum on liquors, tobacco, and in various modes of dissipation, all which I save now, and I can well afford to give what I have subscribed."

True piety also guards its possesser against temptation to many dishonest practices that often end in loss and ruin. Now and then rogues escape retribution, it is true, but such is the ordinary course of things, that it has become a proverb, though so often disregarded, that "Honesty is the best policy."

Religion makes men industrious and conscientious in the employment of time and talents, and promotes frugality and all those virtues that are conducive to prosperity. Nor is there any thing in it that hinders success in any honest and worthy calling. And in addition to all the rest, it has the promise of the Divine bless-

ing on well-directed efforts—that blessing "that maketh rich and addeth no sorrow with it."
"The curse of the Lord is on the house of the wicked, but he blesseth the habitation of the just."

II. True religion is conducive to health and long life. It is not of course pretended that Christians never suffer from disease or die prematurely. They are often the victims of hereditary maladies, for which they are not responsible; they are involved in the sweep of epidemics; they are subject to malarious and climatic influences, and they frequently incur sickness from errors of judgment and thoughtless exposure and ignorance of the great laws of hygiene and health. But this does not invalidate the general principle that Solomon announces, when he says of wisdom or religion, that "She shall be health to thy navel and marrow to thy bones," and that "length of days shall she add unto thee."

The conscientious and enlightened Christian, of course, will avoid a thousand causes of disease and death which are found in criminal and vicious indulgences, and will practice that moderation and temperance that are confessedly conducive of vigor, both of body and mind. He regards his body as a sacred trust, to be cared for and preserved in all possible ways in such a state, as will fit it to be the instrument of the soul for serving and glorifying God on the earth. Like Paul, he can say, "I keep my body under, lest having warned others, I myself should be a castaway." He studies the laws of physical health and strength, and carefully avoids all that is not conducive to them, and practices whatever tends to promote them.

How many diseases are the direct results of the violation of the moral and natural laws of God! How many cut short their days by vice! How many bring upon themselves insanity and suicide by a wrong course of life! If mankind obeyed God's physical laws, why should not the human race generally attain the utmost limit of life assigned by the Creator, as well as the brutes? Why should not the cares of disease and premature death be the rare exceptions with rational as well as irrational animals? Can any one tell? There is no more necessity for sickness and short life in the one case than in the other. And if all men everywhere acted on the principles of Christianity, not only would many diseases be banished from the earth, but the average of life would be vastly increased, and with it, to what an extent, the happiness of mankind and their productive force and capacity for all the great ends of life!

Some years ago (1867), the Editor of THE HERALD OF HEALTH had an extensive correspondence with old people, some of them aged upwards of 100 years, and he was struck with the fact which was revealed that they attributed their long life quite as much to their religion as to any other cause. Plain fare, industry, and often hard work, was the lot of all of them. The editor remarked in his journal at the time, that "the peace of mind, the calm, trustful, hopeful spirit of truly religious persons, place them in frames of mind which prevent the angry clashing of passions and the waste of life which result to those whose higher nature does not govern and control the lower. The key to longevity is not entirely in good physiological, but good, moral, and religious hatits."

111. Religion is conducive to present happiness and the highest enjoyment of all the real blessings of the life on earth. It produces such a state of mind as is indispensable to the complete appreciation of all that is good in the world. It enhances every comfort and blessing a thousand fold, while it guards, as we have seen, against a multitude of sources of unhappiness. What is the value of wealth or of any earthly possession to a man suffering from a diseased body or mind? In vain may you multiply the comforts of life to a man who is continually goaded by a reproving conscience, and whose heart is full of rebellion against God. External blessings can not make him happy. Pour into his lap all the wealth of the Indies, or put unlimited power within his grasp, or elevate him to any position among men, and he will be "like the troubled sea when it can not rest, whose waters cast up mire and dirt. There is no peace, saith my God, to the wicked."

But the Christian with a "conscience void of offense, both toward God and man," and conscious of rectitude, of aim, and effort, his bosom glowing with love to all his fellow creatures, submissive to the will of his Creator and casting all his cares upon him, and assured that there is now no condemnation since he is in Christ Jesus, with the promise to him that all things shall work together for his good as a lover of God, is in the best possible condition to extract from this world all the good there is in it. He can, as Solomon says, "eat his bread with cheerfulness, and drink with a merry heart, for God has accepted his works."

"He looks abroad into the varied field
Of nature, and though poor, perhaps, compared

With those whose mansions glitter in his sight,

Calls the delightful scenery all his own.

His are the mountains, and the valleys his,

And the resplendent rivers. His to enjoy

With a propriety that none can feel,

But who, with filial confidence inspired,

Can lift to Heaven an unpresumptuous cye,

And smiling say, 'My Father made them

all!'

Are they not his by a peculiar right,
And by an emphasis of interest his
Whose eye they fill with tears of holy joy,
Whose heart with praise, and whose exalted
mind

With worthy thoughts of that unwearied love

That planned and built, and still upholds a world

So clothed in beauty for rebellious man?"

And then religion, in addition to all this, opens up sources of positive enjoyment peculiar to itself, and which are wholly unknown to those who are destitute of it. "Her ways are ways of pleasantness, and all her paths are paths of peace." Says a most competent witness, Sir Humphrey Davy:

"I envy not any quality of the mind or intellect in others; not genius, power, wit or fancy; but if I could choose what would be most delightful, and I believe most useful to me, I should prefer a firm religious belief to every other blessing; for it makes life a discipline of goodness, creates new hopes when all earthly hopes vanish, and throws over the decay the destruction of existence, the most gorgeous of all lights, awakens life even when in death, and from corruption and decay calls up beauty and divinity-makes the instrument of torture and of pain the ladder of ascent to Paradise; and far beyond all combinations of earthly hopes, calls up the most delightful visions of palms and amaranths, the gardens of the blest, the security of everlasting joys, when the sensualist, the skeptic view only gloom and decay, annihilation and despair!"

Over against this, place the testimony of the celebrated Goethe, than whom, probably, no man in his life-time ever possessed more earthly sources of pleasure, and who yet, without the Christian's hope, wrote near the close of life, "I have ever been esteemed one of fortune's chiefest favorites, nor have I any reason to complain of the course my life has taken. Yet there has been nothing but trial and care; and now, in my seventy-fifth year, I may say, that I hav never had four weeks of genuine pleasure."

OUR STUDIES IN PHYSIOLOGY.

SIXTH STUDY. *

SOURCES OF LOSS AND GAIN TO THE BLOOD.

WE must next consider the chief sources of constant gain to the blood; and, in the first place, the sources of gain of matter.

The lungs and skin are, as has been seen, two of the principal channels by which the body loses liquid and gaseous matter, but they are also the sole means by which one of the most important of all substances for the maintenance of life, oxygen, is introduced into the blood. It has already been pointed out that the volume of the oxygen taken into the blood by the lungs is rather greater than that of the carbonic acid given out. The absolute weight of oxygen thus absorbed may be estimated at 10,000 grains.

How much is taken in by the skin of man is not certainly known, but in some of the lower animals, such as the frog, the skin plays a very important part in the performance of the respiratory function.

The blood leaving the liver by the hepatic vein, not only contains proportionally less water and fibrin, but proportionally more corpuscles, especially colorless corpuscles, and, what is still more important, a larger quantity of liver-sugar, or glucose, than that brought to it by the portal veins and hepatic artery; and these differences are irrespective of the nature of the food.

That the blood leaving the liver should contain proportionally less water and more corpuscles than that entering it, is no more than might be expected from the fact that the formation of the bile, which is separated from this blood, necessarily involves a loss of water and of some solid matters, while it does not abstract any of the corpuscles.

We do not know why less fibrin separates from the blood of the hepatic vein than from the blood brought to the liver. But the reason why there is always more sugar in the blood leaving the liver than in that entering it; and why, in fact, there is plenty of sugar in the blood of the hepatic vein even when none whatever is brought to it by the the hepatic artery, or portal vein; has only been made out by careful and ingenious experimental research within the last few years.

If an animal be fed upon purely animal food,

the blood of the portal vein will contain no sugar, none having been absorbed by the walls of the alimentary canal, nor will that of the hepatic artery contain any, or, at any rate, more than the merest trace. Nevertheless, plenty will be found, at the same time, in the blood of the hepatic vein and in that of the vena cava, from the point at which it is joined by the hepatic vein, as far as the heart.

Secondly, if from an animal so fed the liver be extracted, and a current of cold water forced into the vens porte, it will flow out by the hepatic vein, carrying with it all the blood of the organ, and will, after a time, pour out colorless and devoid of sugar. Nevertheless, if the organ be left to itself at a moderate temperature, sugar will soon again become abundant in it.

Thirdly, from the liver, washed as above described, a substance may be extracted, by appropriate methods, which resembles starch, dextrine, and gum in chemical composition, consisting as it does of carbon united with hydrogen and oxygen, the latter being in the same proportions as in water. It may be dried and kept for long periods without undergoing any change.

But, like the vegetable starch and dextrine, this animal amyloid, which must be formed in the liver, since it is certainly not contained either in the blood of the portal vein, or in that of the hepatic artery, is very readily changed by contact with certain matters, which act as ferments, into sugar.

Fourthly, it may be demonstrated that a ferment, competent to change the "amyloid" glycogen into saccharine "glucose," exists under ordinary circumstances in the liver.

Putting all these circumstances together, the following explanation of the riddle of the appearance of sugar in the blood of the hepatic vein and vena cava, when neither it, nor any compound out of which it is easily formed, exists in the blood brought to the liver, appears to have much probability; though it may possibly require modification, in some respects, hereafter.

The liver forms glycogen out of the blood with which it is supplied. The same blood supplies the ferment which, at the temperature of the body, very speedily converts the comparatively little soluble glycogen into very soluble sugar; and this sugar is dissolved and carried

^{*}Our Studies in Physiology are condensed from Prof. T. H. Huxley's English works, not published here.

away by each intralobular vein to the hepatic vein, and thence to the vena cava.

The lymphatic system has been already mentioned as a feeder of the blood with a fluid which, in general, appears to be merely the superfluous drainage, as it were, of the blood-vessels; though at intervals, as we shall see, the laeteals make substantial additions of new matter. It is very probable that the multitudinous lymphatic glands may effect some change in the fluid which traverses them, or may add to the number of corpusoles in the lymph.

The glandular bodies which, like the lymphatic glands, are devoid of ducts, and are abundantly supplied with lymphatics, are the thyroid gland, which lies in the part of the throat below the larynx, and is that organ which, when enlarged by disease, gives rise to "Derbyshire neck" or "goitre:" the thymus gland, situated at the base of the heart, largest in infants, and gradually disappearing in adult and old persons; and the supra-renal capsules, which lie above the kidneys. Nothing certain is known of the function of any of these bodies.

We are as much in the dark respecting the office of the large viscus called the splcen, which lies upon the left side of the stomach in the abdominal cavity. It is an elongated flattened red body, abundantly supplied with blood by an artery called the splenic artery, which proceeds almost directly from the aorta. The blood which has traversed the spleen is collected by the splenic vein, and is carried by it to the vena portæ, and so to the liver.

A section of the spleen shows a dark red spongy mass dotted over with minute whitish spots. Each of these last is the section of one of the spheroidal bodies called corpuscles of the spleen, which are scattered through its substance, and consist of a solid aggregation of minute bodies, like the white corpuscles of the blood, traversed by a capillary network, which is fed by a small twig of the splenic artery. The dark red part of the spleen, in which these corpuscles are embedded, is composed of fibrous and elastic tissue supporting a very spongy vascular network.

The elasticity of the splenic tissue allows the organ to be readily distended, and enables it to return to its former size after distension. It appears to change its dimensions with the state of the abdominal viscera, attaining its largest size about six hours after a full meal, and falling to its minimum bulk six or seven hours later, if no further supply of food be taken.

The blood of the splenic vein is found to contain proportionally fewer red corpuscles, but more colorless corpuscles and more fibrin, than that in the splenic artery; and it has been supposed that the spleen is one of those parts of the economy in which the colorless corpuscles of the blood are especially produced.

It has been seen that heat is being constantly given off from the integument and from the airpassages; and every thing that passes from the body carries away with it, in like manner, a certain quantity of heat. Furthermore, the surface of the body is much more exposed to cold than its interior. Nevertheless, the temperature of the body is maintained very evenly, at all times and in all parts, within the range of two degrees on either side of 99° Fahrenheit.

This is the result of three conditions: The first, that heat is constantly being generated in the body. The second, that it is as constantly being distributed through the body. The third, that it is subject to incessant regulation.

Heat is generated whenever oxidation takes place; and hence, whenever protein substances, or fats, or amyloidal matters, are being converted into the more highly oxidated waste products—urea, uric acid, carbonic acid, and water—heat is necessarily evolved. But these processes are taking place in all parts of the body by which vital activity is manifested; and hence every capillary vessel and every extravascular islet of tissue is really a small fireplace in which heat is being evolved, in proportion to the activity of the chemical changes which are going on.

But as the vital activities of different parts of the body, and of the whole body, at different times, are very different; and as some parts of the body are so situated as to lose their heat by radiation and conduction much more easily than others, the temperature of the body would be very unequal in its different parts and at different times, were it not for the arrangements by which the heat is distributed and regulated.

Whatever oxidation occurs in any part, raises the temperature of the blood which is in that part at the time to a proportional extent. But this blood is swiftly hurried away into other regions of the body, and rapidly gives up its increased temperature to them. On the other hand, the blood of the surface of the body, the temperature of which is lowered by evaporation and radiation, suffers only a very slight loss of heat before it is transported into the deeper organs; and in them it becomes warmed by contact, as well as by the oxidating processes in which it takes a part. Thus the blood-vessels and their contents might be compared to a system of hot-water pipes, through which the

warm water is kept constantly circulating by a pump; while it is heated, not by a great central boiler as usual, but by a multitude of minute gas jets, disposed beneath the pipes, not evenly, but more here and fewer there. It is obvious that, however much greater might be the heat applied to one part of the system of pipes than to another, the general temperature of the water would be even throughout, if it were kept moving with sufficient quickness by the pump.

If such a system were entirely composed of closed pipes, the temperature of the water might be raised to any extent by the gas jets. On the other hand, it might be kept down to any required degree, by causing a larger or smaller portion of the pipes to be wetted with water, which should be able to evaporate freely—as, for example, by wrapping them in wet cloths. And the greater the quantity of water thus evaporated, the lower would be the temperature of the whole apparatus.

Now the regulation of the temperature of the human body is effected on this principle. The vessels are closed pipes, but a greater number of them are inclosed in the skin and in the mucous membrane of the air-passages, which are, in a physical sense, wet cloths freely exposed to the air. It is the evaporation from these which exercises a more important influence than any other condition upon the regulation of the temperature of the blood, and consequently of the body.

But, as a further nicety of adjustment, the wetness of the regulator is itself determined by the state of the small vessels, inasmuch as exudation from these takes place more readily when the walls of the veins and arteries are relaxed, and the blood distends them and the capillaries. But the condition of the walls of the vessels depends upon the nerves by which they are supplied, and it so happens that cold so affects these nerves in such a manner as to give rise to contraction of the small vessels; while moderate warmth has the reverse effect.

Thus the supply of blood to the surface is lessened, and loss of heat is thereby checked, when the external temperature is low; while, when the external temperature is high, the supply of blood to the surface is increased, the fluid exuded from the vessels pours out by the sweat glands, and the evaporation of this fluid checks the rise in the temperature of the superficial blood.

Hence it is that, so long as the surface of the body perspires freely, and the air-passages are abundantly moist, a man may remain with impunity, for a considerable time, in an oven in which meat is being cooked. The heat of the air is expended in converting this superabundant perspiration into vapor, and the temperature of the man's blood is hardly raised.

The chief intermittently active sources of loss to the blood are found among the glands proper. all of which are, in principle, narrow pouches of the mucous membranes, or of the integument of the body, lined by a continuation of the epithelium or of the epidermis. In the glands of Lieberkühn, which exist in immerse numbers in the walls of the small intestines, each gland is nothing more than a simple blind sac of the mucous membrane, shaped like a small test tube with its closed end outward, and its open end on the inner surface of the intestine. The sweat glands of the skin, as we have already seen, are equally simple, blind, tube-like involutions of the integument, the ends of which become coiled up. The sebaceous glands, usually connected with the hair sacs, are shorter, and their blind ends are somewhat subdivided, so that the gland is divided into a narrow neck and a more dilated and sacculated end. The neck by which the gland communicates with the free surface is called its duct. More complicated glands are produced by the elongation of the duct into a long tube, and the division and subdivision of the blind end into multitudes of similar tubes, each of which ends in a dilatation. These dilatations, attached to their branched ducts, somewhat resemble a bunch of grapes. Glands of this kind are called racemose. The salivary glands and the pancreas are such glands.

Now, many of these glands, such as the salivary and pancreas (with the perspiratory, or sudoriparous glands, which it has been convenient to consider already), are only active when cortain impressions on the nervous system give rise to a particular condition of the gland, or of its vessels, or of both.

Thus the sight or smell, or even the thought of food, will cause a flow of saliva into the mouth; the previously quiescent gland suddenly pouring out its fluid secretion, as a result of a change in the condition of the nervous system. And, in animals, the salivary glands can be made to secrete abundantly, by irritating a nerve which supplies the gland and its vessels. How far this effect is the result of the mechanical influence of the nerve on the state of the circulation, and how far it is the result of a more direct influence of the nerve upon the state of the tissue of the gland itself, is not at present determined.

'The liquids poured out by the intermittent

glands are always very poor in solid constituents, and consist chiefly of water. Those poured on to the surface of the body are lost, but those which are received by the alimentary canal are doubtless in a great measure re-absorbed.

The great intermittent sources of gain of waste products to the blood are the muscles, every contraction of which is accompanied by an oxidation of matter, and a pouring of the oxidated products into the blood. That much of this waste is carbonic acid is certain from the facts that the blood which leaves a contracting muscle is always highly venous, far more so than that which leaves a quiescent muscle; and that muscular exertion at once immensely increases the quantity of carbonic acid expired; but whether the amount of nitrogenous waste is increased under these circumstances or not, is a point yet under discussion.

Gulture.

BY REV. J. B. BRACH.

THE problem how to order one's life wisely, so that, viewed in every aspect, it shall appear well-balanced, successful, and serene, is one which engages the thought of all earnest minds. Can this be done by those who are immersed in business, or in the never-ceasing labor and cares of the farm, shop, or household? Can one mingle with society, take part in its affairs, feel the onward sweep of its great bewildering life, and yet keep the perfect poise and freedom of the soul? This is certainly the crowning excellence of human character; may men and women of the average condition in life bope to attain unto it, or is it the peculiar reward of such as have the good fortune to be able to retire from the hurry and pressure of affairs, and devote themselves to a life of contemplation and study? May we who must live among common people, and as common people, live naturally, agreeably to reason, or must we needs be involved in the thousand absurdities and excesses which absorb the means and waste the energies and embitter the lives of multitudes? Can we do our share of the world's work, and do it well, too, without being belittled or lowered by it-becoming neither machines nor drudges? Must our thoughts keep always to the level of our tasks? Can practical people of slender means and average abilities, having daily wants to be met by daily labor, hope to succeed, if they make culture, in the broadest meaning of that word, the grand aim and uplifting impulse of their lives?

These are questions which engage the thoughts of many who are struggling every day amid difficulties to arrive at a satisfactory soluion. They indicate a new and more hopeful

drift of human effort. They await a solution, and gladly will many weary and depressed hearts welcome the coming man who shall show how to wed humble toil to high endeavor, and teach men, without renouncing or despising their lot, to live for the perfect development of their many-sided nature.

If it should appear that men and women can not take an active part in the affairs of life without becoming absorbed by them; if true refinement is incompatible with narrow means -if thought shuns labor, and the gifts of the spirit are shed only upon those who have ample leisure to wait for them, then, indeed, must the multitude be content with a life without serenity or high enjoyments. For only here and there one in any community is exempt from the necessity of daily labor to provide for daily wants. For most of us there must needs be digging and delving, sowing and reaping, and buying and selling, cooking and washing, and ironing and mending—a never-ending struggle with burdens too often, alas! unequal to our strength. Many do these things faithfully and patiently; but it is the saddest sight to see how utterly secularized and belittled they are by their occupations. Can we learn to do them with better results, without becoming overwhelmed and mastered and turned aside from a noble, uplifting purpose? Can we keep the poise of a well-ordered mind—the easy, healthful play of all our human faculties, while our garments are smirched with the dust of daily cares?

This is the problem which meets us day by day—which we have been grappling with, it may be, these long, weary years. With what

success, pray? one is tempted to ask. Are we any nearer the realization of our hopes than when we first awoke to the necessity of living a true life?

The difficulty of living much above the average standard prevailing around us is, it must be confessed, well-nigh insuperable to many. It requires a strength of moral purpose-a general elevation of thought and feeling-which are truly exceptional. We often mark out for ourselves a line of conduct or a plan of life in accordance with our truest conceptions of duty We pursue it for awhile with and interest. steady aim and unfaltering will, yet the mighty pressure of social influence tells upon us at last. Society has many annoying retributions for the individual who departs from the established ways. In all things, "from the tie of a neckcloth to the points of a creed," she expects conformity. And conformity is so easy and pleasant to the man of fine social instincts, that he is apt to yield where he ought to resist. He loses his liberty in deference to custom. Society regulates his speech, dress, diet, and opinion; tells him when he shall rise, what he shall interest himself in, whom he shall associate with, how far he shall act out himself, in short, prescribes laws for the whole conduct of life hardly less imperative than those of the State.

Here, in fact, lies the great obstacle in the path of individual improvement. Society drags us down to its own level. A pure and true life is made doubly difficult by being unpopular and When we set ourselves the unfashionable. task of leading such a life, we discover how largely we belong to others, how subtile and mighty the threads wherewith our duty is interwoven with that of the whole. No man, it has been well said, goes to Heaven alone. We rise only as we lift others with us. In the degradation of the masses we are ourselves degraded. In laboring for their enlightenment and purification, we lay the foundation of our own advancement.

Much, however, we may gain, even under the present rude and unsatisfactory ordering of social affairs, by a wise simplification of life; by disentangling ourselves from all needless complications; by confining ourselves more strictly within the channels of useful industry, and by reducing the number of our wants, so that we may have time for study and improvement, and means (without excessive labor) for supplying those needs which are natural. Much of our strength must need be given to the work of providing food clothing, and shelter for ourselves and others, who are dependent upon us. The

demands of our perishable nature are numerous and constant and imperative. The outer man, as civilization advances, is ever craving finer and more costly accommodations. It is poor economy to starve and cramp ourselves in these things. The needs of the lower nature must be fairly met, or it will avenge itself on the higher. Yet in our provision for these, let us beware of excess and extravagance. Let all superfluities be lopped off. 'In foods and drinks, let the simplicity of nature, not the caprices of pampered appetite, give law. Of luscious fruits and nutritious vegetables and grains, the earth never fails to yield a generous supply as the reward of enlightened labor. Let these, so far as practicable, be used in their simple state; thus much may be gained in time and expense and digestion. Let use and beauty, not the perverted tastes of our neighbors, determine the quality and make of our clothes, the training of our children, the style and decoration of our homes.

Another hint may serve to help us. The more of mind we bring to our tasks, the better. "Without a habit of thought," says Dr. Channing, "a man works more like a brute or machine, than like a man. With it his soul is kept alive amid his toils. He learns to fix an absorbing eye on the processes of his trade or occupation, catches hints which abridge labor, gets glimpses of important discoveries, and is sometimes able to perfect his art. Thus labor becomes a new thing, when thought is thrown into it, when the mind keeps pace with the hands." And we may add that the deteriorating influence of daily toil may be greatly alleviated, if not wholly done away, if farmer, mechanic, tradesman or housewife would cultivate the perception of beauty, and to throw around their tasks the spiritual charm with which this element of the mind invests all it touches.

Meanwhile labor we on with unflagging industry and ever-greatening hope to bring about improved conditions for humanity. Forget we our own difficulties and discouragements in the thought that those who come after us shall see the beginning of better days. By means of a more efficient organization of labor, a juster apportionment of burdens and rewards, and especially the economy which will result from the substitution of cooperative industry in place of the present absurd system of isolation and competition, many of the causes which render a true life always difficult and often well-nigh impossible, will, let us hope, be effectually done away. The fore-gleams of that brighter day for humanity are even now dawning for all who here eyes to see.

EDITORIAL DEPARTMENT.



NEW YORK, JULY, 1870.

WATER.

"To the days of the aged it addeth length; To the might of the strong it addeth strength; It freshens the heart, it brightens the sight; "Tis like quading a goblet of morning light."

BEF THE PUBLISHERS do not hold themselves as indorsing every article which may appear in THE HERALD.
They will allow the largest liberty of expression, believing that by so doing this magasine will prove to be more useful and acceptable to its patrons.

BF Exchanges are alliberty to copy from this magazine by giving due credit to The Herald of Health and Journal of Physical Culture.

TOPICS OF THE MONTH.

BY M. L. HOLBROOK, M. D., EDITOR.

Longevity of Dry Goods Clerks.—
Many a smart boy looks forward with pleasure to the time when he shall be duly installed behind the counter of some store richly filled with silks, satins, ribbons, lace, and perhaps some of the more substantial fabrics, such as broadcloth, cassimeres, woolens, shawls, and other articles of similar character. There is no use of denying it, and we frankly confess there is something fascinating, looked at from the distance, about the labor of selling tapes and ribbons, silks and laces to genteelly dressed people, compared with the more prosy work of milking cows, shearing sheep, hoeing corn, or turning the green sod in June for a field of wheat in autumn. We can

hardly blame young men, whose judgment is not mature, for being drawn into this kind of life, though it may lead to their physical ruin. It has many pleasant things connected with it. The opportunities for intercourse with business people, the constant pleasurable variety and excitement are not to be despised. But let us look at the question from the standpoint of health and longevity. We are furnished with the vital statistics recently published for the State of Michigan. Here are some of the figures:

The average age of clergymen and physicians in Michigan is 59 years; shoemakers live 55½ years, and farmers live 51 years. All of these figures are below the allotted life of man, still they are not to be smeered at. Even fifty years gives a human being time to do a good work and leave a creditable record, if it is wisely used. But let us look at the figures standing opposite the names of clerks. Here they are:

"Clerks live a shorter life than any other class of business or professional men, 33.14 years being allotted to them." This does not vary much from the average age of the race. It is true, thirty-three years gives time for the accomplishment of very much, but when we talk of the great ends for which life was given, as the founding of a family, the accumulating of a fortune, the building up of a noble edifice of moral and intellectual culture, we at once recognize the need of more years than these in which to accomplish the task. Such a great work can not be done hastily, or in the immaturity of youthful days. And then the crown of life, a natural old age, full of dignity, sweetness, repose, and grandeur, they miss-they who "shuffle off this mortal coil" in their early days.

Our esteemed contributor, F. B. Perkins, in the June number of THE HERALD OF HEALTH, says, what will here bear repeating, that "A good many physiologists have earnestly taught, and with reason, too, that an average human being ought to live a hundred years. I suppose the average human machine is really capable of running a century. It does not now run much, if any, over a third of that time.

We can really do a good deal to lengthen our lives. But we can do infinitely more to widen them. A life fifty long and fifty broad amounts to twenty-five hundred; whereas, if it is a hundred long and only one broad, it amounts only to one hundred. It is twice as long as the other, but only one-twenty-fifth as large."

Now, what we do to widen our lives, ought indirectly to lengthen them. The men and the women who live broad and deep, like Humboldt or Lucretia Mott, are those who live long. The men and women who live narrow and shallow are generally those who live short. And herein lies the lesson which clerks should learn. If they would make life complete, let them not enter into the occupation of clerks until the bodily powers are fully developed. The business is not one favorable to the development of the muscles, or any of the organs of the body. Let them also devote a sufficient time daily to exercise in the fresh air and open sunshine, and let them live noble, manly, temperate lives-full of sweetness, purity, and strength. With the breadth and depth thus gained, clerks may live much longer than thirty-three years, if they do not even exceed the life of professional men and farmers. It is true, as the world is constituted it is not always an easy task to carry out that course which secures physically a deep and wide life, but its rewards are so great that the effort ought to be made by all whose ambitions are higher than present gratification. All others we can afford to spare at an early day, if they so choose for themselves.

How to Accomplish a Great Deal.— Economy in the use of our strength is sometimes carried too far. Many persons go through the world accomplishing little, who might have done a great deal, if they had not been so afraid of fort. There is, however, another class of persons who are very opposite from the one to whom we have just referred. They are ever active, always doing. The dignity of repose, the quietude of rest, the peace of mind that may be experienced by inaction they never know. Such should learn how to economize their strength. Edward Bulwer Lytton once related the history of his literary habits, when he said:

"Many persons, seeing me so much engaged in active life, and as much about the world as if I had never been a student, have said to me. 'When do you get time to write all your books? How on earth do you contrive to do so much work? I shall surprise you by the answer I made. The answer is this: I contrive to do so much, by never doing too much at a time. A man, to get through work well, must not overwork himself, or, if he does too much work today, the reaction of fatigue will come, and he will be obliged to do too little to-morrow. Now, since I began really and earnestly to study, which was not till I had left college, and was actually in the world, I may, perhaps, say I have gone through as large a course of general reading as most men of my time. I have traveled much, and I have seen much; I have mixed much in politics and the various businesses of life; and, in addition to this, I have published somewhere about sixty volumes, some upon subjects requiring much research. And what time, do you think, as a general rule, have I devoted to study-to reading and writing? Not more than three hours a day; and, when Parliament is sitting, not always that. But then, during those hours, I have given my whole attention to what I was about."

Three hours of vigorous literary application daily, is probably as exhausting to an active brain as eight or ten hours of muscular effort is to the body. Persons with good digestion and large lungs can work longer than this. Each person ought, if possible, to so arrange his or her labor as not to have it exhausting. This can be done if due regard is paid to the system, and no strength is wasted in vain effort. Let every one try to economise the use of his powers.

A Sound MIND IN A Sound Body.— Life was undoubtedly intended to be enjoyed as a blessing in itself, independently of its accidents. When received as the gift of the allbountiful Creator, and wisely spent in deference to his laws, it abounds in noble satisfactions and is lighted up with the splendor of infinite hopes. With every lot are mingled some elements of discomfort and unpleasantness that may not be avoided; but however large and undue the proportion of these, the cup of life was meant to be, and ought to be, upon the whole, not bitter but sweet to us.

Gladuess, mere exhilaration of spirits, belong to every healthy man. It is the predominant feeling in childhood; and childhood is proverbially the period of sound nerves and safe instincts. It is when we depart from the simplicity of nature, and suffer ourselves to become entangled in a thousand needless cares, that we lose the proper balance of our being, become gloomy and discontented, fall into temptation and a snare, and pierce ourselves through with many sorrows. The culture which we of mature years are striving for consists largely in correcting mistakes-avoiding excesses on this side or on that, into which the path of our life bas run. It is, in part, a return to that harmony of being which we are apt to lose in outgrowing childhood. In character nothing pleases us more than a certain wholeness or completeness; the proper development and healthy play of all parts of the nature is the end of every just system of human training. And it would seem to be the divine plan that the childsoul should grow gradually into the rounded fullness of the man. But alas! how we mar the perfect processes of Nature by our stupid systems of training! With growth comes distortion on this side or that; hence transgression, and with transgression comes the long train of sorrows, discontents, and miseries.

Cheerfulness, as a habit of the mind, results from the satisfaction of living. It springs up naturally and necessarily in every sound and well-balanced nature. Such a nature rejoices in life, as a plant rejoices in sunshine. A sound

mind in a sound body is never wanting sources of tranquil joy. To such, existence itself is a perpetual satisfaction. Nature opens a neverending series of pleasing sights and sounds and instructive lessons. Society, friendship, love, occupation, culture, impart ever-widening and deepening joys. "Oh the brain and the heart of man!" exclaims a powerful writer. "Therein. is the only hell. Small these regions in space, and of narrow room, but haunted may they be with all the fiends and all the furies. A few nerves transmit to the soul despair or bliss. Atthe touch of something-whence and whereforesent, who can say?-something that serenes or troubles, soothes or jars—she soars up into life. and light, just as you may have seen a dovesuddenly cleave the sunshine; or down shee dives into death or darkness, like a shot eagletumbling into the sea."

Yet there is a sanity of soul which must beconsidered as well as that of the body. In animportant sense the old stoical doctrine is true, that the mind makes its own world-finds in. itself its own hell or heaven. Each one sees in nature and in human life his own inward state outwardly projected. To the pure all things: are pure; to the selfish all appear selfish; to the cheerful this is a cheerful world; but the sorrowful heart finds only gloom in the most pleasing landscape. From year to year we look upon the same benignant face of Nature; we see the ever-recurring spectacle of her changeful beauty-the hopeful look of spring, the luxuriant growth of summer, the golden harvests of autumn, the solemn repose of winter. Yet we all see with different eyes. Some put intothese scenes more meaning than others, or a. different meaning. Each spreads his own color: over the landscape. So, too, in regard to the various conditions of human life-the mind imparts to each its own quality. It can make the throne seem to its possessor a mean and. wretched place, or fill the cottage with the peace of heaven. Let the health of the mind. therefore, be cultivated as well as that of the body. Mens sans in corpore sano-a sound mind in a sound body.

IN THE TOMBS FOR A HALF HOUR .-This was quite punishment enough for gratifying curiosity. Entombment in this dark, damp, and dismal dungeon should suffice without other penalty in most cases. True, indeed, that the suffering comes without reference to guilt, conviction, or sentence. The innocent are as liable to arrest and confinement as are the criminals. Passing along Centre Street recently, and nearing the Tombs, we saw an elderly lady in deep mourning being led up the steps to the courtroom. Her escort was a policeman, on whom she leaned quite heavily, as if feeble. Following her to the court, we thought that some case was on trial in which this probable mother had a personal interest. Our surprise was great to see her taken directly to the prisoner's cage. Sitting down near the policeman, we had the following confab with him:

"Will you tell me the cause of that feeble lady's arrest, sir?"

"Drunk! When I found her she was violent and crazy."

"Do you have many such cases?"

"Plenty—yes sir, more than plenty, every day. See there! another, harder case of the female sort."

This was a young woman just brought in, bloated, draggled, and brazen-faced. Her condition and character needed no comment.

"Policeman, what has been your experience in regard to those arrested by you, as to the cause or immediate occasion for arrest?"

"Not hard to answer, sir. For the last three or four months, I can scarcely remember a case of arrest that I could not trace to drink. Liquor's at the bottom, and not far off."

He knew nothing of our views, or the object of these queries. Other policemen of whom we inquired then and there, assured us of the same with but little modification. At other times the same story has been told us. While talking and watching, eight or ten men were led in and thrust into the cage; all more or less drunk, with one exception.

"Do you see that fellow in the red shirt, sit-

ting on the end of the bench?" asked our informant.

"Yes; but he looks sober and rather sulky, too."

"I tell you, he's an ugly customer—sober enough now, I guess; but three hours ago, he was drunk as mad. He was beating a bar-tender's son in Baxt.r Street. I tried to arrest him; he turned on me, struck me, and run. I chased him a mile; called another policeman; we caught him; but he fought us furiously, till I knocked him down with my club. Liquor makes such fellows dangerous. He is sober enough now, and sorry, too. There's another feminine!"

This was said of a large, fine-looking woman, brought in by two policemen, too drunk to stand, well dressed, though bare-headed. She had, no doubt, come down from the wine-cup, as there were evidences of culture and refinement. Oh how sadly is this "mocker" (wine) degrading woman!

Our half hour was up. Some twelve or fifteen whisky-manians had been caged. How humiliating, how pitiable the scene! Leaving the court-room, as we descended the steps, another woman was led up by police. She had a market basket on her arm, partly filled. The drunkery was too near the market. She drank, forgot her family, got into a drunken fight, was arrested, and now the hungry children must wait for mother, till Judge Dowling's sentence is declared and expiated. If the record of one half-hour at the Tombs gives such terrible facts, as to the working of one phase of the liquor traffic, what must be the sum of horrors which could be gathered in a day, a week, a month, or a year, from all the police and other records in this great city, other cities, this vast country-the world!

This demon of all ovil is now virtually unchained and free in New York!

The Legislature of last winter was wholly in the interest of the drunkard-maker. Will the monster hang himself, having the length of his untied rope? Nay, verily; violence and bloodshed will be more rife, more rampant. The cranch of his bloody teeth, and the groans of his victims may arouse public attention and indignation. Then may retribution como, and the accursed thing be banished or crippled.

THE UNEVEN DEVELOPMENT OF THE Sides.—As civilization advances, the right hand and side are very apt to become larger and stronger than the left, and in many persons the excessive development of this side is so great as to be a deformity and disease. TIt is only among those classes whose labor is rude and can be done about as well with one hand as with the other, that the sides are nearly evenly developed. Artists, and people whose lives are sedentary, invariably become one-sided, unless they are very robust and pay careful attention to physical culture. Perhaps our readers have not given very much thought to the matter, but a moment's reflection will convince them, that the right hand does more than its share of the world's work. If two are riding together, the driver sits on the side which enables him to use the right hand the most freely. The right hand carries most of the food to the mouth. Our plows are right-handed, and so are our screws, gimlets, shears, and pens. Our coats button on the right side. We carry the pen, the whip, and the pencil, in the right hand; we fence and box with the right hand, using the left only for lighter work. We almost invariably take hold of any object that we wish to handle with the right hand first. Savages do not, children do not; but the latter soon learn to prefer this hand for the principal work. Left-handed people are scarce. The hereditary tendency to right-handedness is so well established by habit and descent, that this will no doubt always continue to be the case. There is no physiological objection to it, except where the habit of using the right side in excess produces deformity, weakness and disease, in which case the person suffering should take immediate steps to remedy the defect. This can only be done by using the left hand in preference to the right, till equilibrium is established. In a conversation with Dr. Janes, who has experimented largely, and observed closely the effects of the liftingcure, he informs us that by this exercise, the every development of the sides is partly or wholly restored.

ORPHAN'S HYGIENIC HOME.—Our very esteemed friend, Tobias Martin, of Mercersburg, Pa., a most successful horticulturist, and an ardent Health Reformer, has sent us a prospectus of an Orphan's Hygienic Home, which he proposes to establish.

The institution is to be founded on a strictly Hygienic and Christian basis. The orphans are to be received from all classes, without distinction of race or color. They are to have the privilege of a life residence at the Home. They will be trained by four hours of labor, daily, in some useful employment, and to four hours instruction for high spheres of usefulness in any department in life, so not one need go forth to the world, till fully competent to enter upon an independent course in life, and with such training in the ways of right living as will be sure to secure success.

The plan for strictly Hygienic living will reduce the expenses in every department of life to at least one-third of the usual cost, and the labor of the orphans can be made available, so as to make the Home not only self-supporting—aside from outlays in the purchase of the grounds, erection of buildings, and expenses of that character—but will secure a surplus of means for a continual enlargement of its sphere of usefulness.

The Home is to be located near Mercersburg, Pa., where its agricultural interests can be under the direct supervision of Mr. Martin, who will not only contribute his own labor in this department, but also a large annual income from one of his fruit-gardens. He hopes to associate with himself, like spirits, who will voluntarily contribute their services, thus avoiding any heavy outlay for instructors.

Desirable lands for fruit-growing and agriculture, with a fine, large spring of excellent water, and pleasantly located for the Home, with buildings suitable for present wants, could

be secured for ten thousand dollars, a sum which it is not unreasonable to expect will be contributed to this object; and, insomuch, as great advantages would accrue by having the Home started at an early date, it is to be hoped the amount may be secured at an early day.

We believe Mr. Martin to be thoroughly qualified to manage this enterprise, and we wish him all the success he needs.

THE WHITE MAN'S FEET .- Edward E. Cheever, in the May number of that excellent magazine, The Naturalist, gives a most interesting paper on the "Indians of California," in which we find the following passage: "In tracking white men, they (the Indians) can not make mistakes. The white man's foot is deformed, made so by the shape of his boots and shoes, and even when barefooted, his toes are turned inward. The Indian's foot, never having been compressed, has the toes naturally formed and straight as our fingers are, and he can even use them to hold arrows when he is making them. When he walks, therefore, each toe leaves its imprint in the dust or sand, the imprint of the little toe being as straight, perfect, and distinct as the largest."

This paragraph might be made the text for an article, and perhaps Mr. Brigham will make it one before he concludes his present series of valuable papers. We wish we knew of some plausible reason, why Indians deserve better formed feet than white people, but we do not, No doubt it is a matter of accident, rather than of choice, but so it is. And surely, the white race, with all their glorious achievements in the sciences and the arts, might easily construct boots and shoes on such models as would allow Nature full play; and we believe they would if they had a proper understanding of the subject, and a higher ideal of what a glorious state physical perfection is, and the degradation of deformity. The foot is not so degraded a member of the body that we should neglect it, and it can not grow into perfect form if pinched and cramped by bad shoes, and the sooner people know it the better. It is no excuse that it is kept so much out of sight, for the true artist recognizes deformity, even though covered by finery and leather.

Will not our mothers who have the care of children look into this subject, and if they have been in error before, at once apply the true remedy?

ECONOMY IN THE USE OF STRENGTH. -If we may learn a lesson concerning the care and development of the feet from the Indiana, we may learn another from them regarding economy in the expenditure of strength. The enterprising white is a great spendthrift of physical vigor. The life-force is nothing to him except to turn it into gold or enjoyment. He hoards his money, but is lavish of his energy. Mr. Cheever, who has spent many years among the red men in the far West, says: "In the event of exposure to a severe storm, when out hunting, or on a journey, the Indian does not risk his life by exhausting his strength. He seeks the best shelter near him, while he is comparatively fresh, and with bark and bough, or under an overhanging rock, seeks protection from the wind. A hole sunk in the ground, and a small fire, kept burning by an armfull of sticks, will keep him warm till he can resume his journey. Under similar circumstances, no doubt, whites would do the same, but after all, are we not too careless, too wasteful, in the use of the life-force, and does not by far too much of it go to waste? It is too precious a power to fritter away when it might be made to bring beauty, sweetness, and joy.

GERMAN LAGER—WHISKY—DANGEROUS
RESULTS.—The relation of lager beer to whisky
is being most seriously illustrated in the case of
our German-American children. They seem
to eat, drink, and sleep on lager; they take naturally to it. But as the child adolesces into
youth, what is true? Whisky is substituted
for lager by multitudes of both sexes. This
fact threatens fatal results. Talk with any intelligent and candid German, and he will admit
the danger. The evil is increasing fearfully.

Two special causes may be named. First, the universal habit of lager-drinking creates and fixes the appetite for stimulants. In their father-land, for various reasons, such as temperament, sluggish habits, poverty, and scarcity or high cost of distilled liquors, the Germans are content to guzzle lager only. To a great extent, this is true of the adults after coming to this country, but very different as to their children born here, where the climate is more stimulating, and the means of indulgence vastly more As they become Americanized in abundant. their habits and temperament, as the phlegmatic gives way to the nervous, sharper stimulants, that is, more concentrated, are demanded and are used. The foundation for dissipation and drunkenness has already been laid in the free use of their favorite beverage by both parents and children. The result seems inevitable-general drunkenness to our German-American population, unless, indeed, some potent means may be devised to avert this terrible calamity. This is no false alarm, but a candid word of warning after a careful consideration of wellascertained facts.

HOSPITAL INSTRUCTION FOR WOMEN MEDICAL STUDENTS.—The Philadelphia doctors whose pupils acted so much like hyenas during the past winter, in order to make, if possible, some amends for what happened, asked the contributors to the Hospital what course they desired should be taken. At their meeting, just held at this writing, they passed the following regulations:

"Whereas, The Managers of the Pennsylvania Hospital have asked the contributors to inform the incoming Board of their wishes in regard to clinical instruction to women: and whereas, such instruction, when to large bodies of men and women collectively, is at present, in the minds of many, of questionable expediency; therefore

Resolved, That the Managers, after conferring with their medical and surgical staff, shall, if practical, arrange for appropriate, thorough clinical instruction in the Pennsylvania Hospital to the students of the Women's Medical College of this city."

Although in the abstract, the demand for mixed instruction can not be objected to, yot for the present we believe this course will prove the best. "Better half a loaf than no bread." As the great objection to allowing lady students in the Hospital has been the indelicacy of their seeing cortain cases, the ladies should now demand that those cases which delicacy forbids should go before male students, shall be brought only before the female students. Will the hyenas object to this?

FRUIT AND VEGETABLE DIET.—A subscriber from Reading, Mass., sends us the following bit of his own experience. We should like to know more definitely about his health and habits. He says:

"I have lived on a fruit and vegetable diet thirty-five years. I have eaten neither meat nor grease, not even butter; cold water has been my drink. I have not been sick within this time; the most of my old friends who ridiculed my way of living are in their graves."

GENERAL THOMAS'S DISEASE.—A subscriber has asked us the question, "What was General Thomas's disease, and might his life have been saved?" We believe there is no doubt that he died of apoplexy, although it was first thought his disease was epilepsy. Post-mortem examination proved that he could not have been saved. General Thomas was a man of immense physique, large brain, and a free liver. He was a hearty eater, used stimulants, and after the war, lived comparatively a quiet life. A man with his physique should have lived plainly and temperately, bathed often, and taken much exercise. This would, we believe, have saved his life for many years.

CONGRESS AND HOMGOPATHY.—At the present session, Congress passed a bill chartering the "Washington Homeopathic Medical Society." The Allopaths fought it for some months, but it is said there was not a dissenting

voice. Is it not time that the different medical schools should show their title to public confidence by their efforts to promote true learning, rather than their hostility to other sects. Have not Allopaths enough work to do, without attempting to prejudice Congress against rival schools of medicine?

DIRT IN THE AIR,-Tyndall has recently brought to the attention of the world what every body knew before, that there is an appreciable amount of dust in the atmosphere of all towns and cities, and that it must have an unfavorable effect on health. Dr. Angus Smith, whose investigations in this direction go back much farther than Tyndall's, quietly claims the honor of being first in this field of discovery, and entitled to some of the praise. His first paper on this subject was read before the British Association in 1846. But neither Smith nor Tyndall are entitled to all the credit, for every observing person instinctively knows something on the subject. If the microscope and chemical analysis reveal more than the naked eye and the sense of smell, we are quite sure that the latter reveals enough for all the ordinary purposes of life. Perhaps no one has more clearly put the statement relating to dust, and especially to floating germs in the air, than M. Pasteur, a member of the French Academy. He showed that organized substances are really found in great abundance in the atmosphere (in all places), and that they are the cause of some hitherto entirely mysterious phenomena, putrefaction included. His object was first to inquire into the possibility of spontaneous generation, and he found that carefully filtered air allowed no organisms to appear in vegetable solutions. He found that near the usual surface of the ground these organisms were so numerous that whenever a vessel containing vegetable matter fit for their growth was opened for a very short time they were found to enter, that in cellars and damp and quiet places, where there was no air or dust floating about, these organisms were fewer, and that as he ascended the sides of the Alps and the Jura, they diminished in number.

A commission of the French Academy confirmed his results. If we examine previous inquiries into the compounds resulting from the decomposition of organic substances, we shall find nothing at all calculated to bring out such an intelligible rational view of the origin of many diseases, and also of some phases of putrefaction. Chemists, when they have examined products of the latter action, have found sulphuretted hydrogen, carburetted hydrogen, carbonic acid, nitrogen, hydrogen, ammonia, acetic acid, lactic acid, butyric acid, and numerous uncertain bodies having no activity, and utterly incapable of producing those prodigious results that are found when that force begins to work which produces plague, small pox, or black death.

Now that Tyndall has so well called the attention of people to this subject of dust in the air, would it not be well to take practical measures to prevent it? In healthy country places little is to be feared, but in all cities and miasmatic regions, and those manufacturing establishments and houses where cleanliness is not attended to, great harm is produced. The only true remedies are to be found in cleanliness, ventilation, sunlight, disinfection, underdraining and hygiene applied to our every-day life. Tyndall, Smith, and others have given the world knowledge of the dangers to which we are daily exposed in the air we breathe, who will fill them with enthusiasm for their removal.

To Cornespondents.—The poem to "Zalinka" has many fine poetic thoughts and many good poetic expressions, but it is hardly enough condensed to suit the columns of The Herald of Health. The author will observe in our pages that we aim at condensed paragraphs; we wish every word to tell; we aim at crystallized thought. We are pleased with the appreciation of our story, and the insight of our correspondent is beyond all praise, when he says of his poem, "it is the personification of the spirit of reform or truth so beautifully symbolized in Mrs. Elizabeth Oakes Smith's fine story."

We might select many fine passages from

"Zalinka," full of suggestions (all the author needs is condensation), but the following must suffice:

"Hark, the watchword! Learn to labor—
Learn to labor, and to wait;

'T is a keenly cutting sabre,
Cleaving through the mail of Fate;

'T is the timing of a tabor,
Pulsing all the streams of state.

'T is a free and chainless river,
Loving still the fountain's play;
'T is a star, that sheds for ever
On the earth a golden ray;
'T is the only moving lever
That can roll the Stone away.''

SHALL WE MARRY?—"To the Editor of The Herald of Health—Dear Sir: Having arrived at an age when I should be married, and not wishing to do wrong to future generations, I ask the following questions: Should I marry a young woman whose mother has died insane? As yet, we have not committed ourselves, or, in other words, commenced courting in earnest, although we have shown our preferences for one another.

Yours, etc., W. H. B."

Answer—Our friend has asked a difficult question. Had he stated all the facts of the case, we might have given more definite advice. The young lady's mother may have become insane from special causes which did not affect the daughter. If insanity is not a trait of the family, and if the lady is healthy and sensible, and knows how to take care of herself, we see no objection, provided there is physiological, moral, mental, and social adaptation. These latter are exceedingly important, if one would secure matrimonial happiness and healthy off-spring.

POISONING OF CHILDREN THROUGH THE MOTHER'S MILK.—Dr. Hartly mentions the case of a nursing child showing all the symptoms of poisoning after the mother had taken strichnis, though she had not appreciably suffered from

the amount taken. It is very easy to poison the young in this way. Numerous cases have been observed, where the drug taken was other than that named in the case above cited.

INTEMPERATE MINISTERS.—Rev. Chas. B. Smythe, of the Eleventh Street Presbyterian Church, New York, has been tried and rebuked for drinking gin and milk in a bar-room on a Sunday with two newspaper reporters. The Wisconsin Chief says the society that could listen to such a minister "ought to add a saloon to its other spiritual privileges."

In England and Scotland, ministers drink a great deal. Even Spurgeon can not get along without stimulants, but in America, as a general rule, elergymen are not only temperate, but interested in the promulgation of temperance principles. This is true in nearly all denominations, and it is a condition of things the country may be very thankful for. Though it may be no worse for a minister, as a man, to imbibe than any body else, as public teachers, we are glad the clergy are held to strict account for those habits which may be pernicious in their effects on the people whom they teach.

School of Physical Culture.—Prof. Welch's School of Physical Culture, which has been held in a delightful rural resort at Brattleboro, Vt., will continue, under favorable auspices, the coming season. Since Dr. Lewis discontinued his school, this is the only one in the country where light gymnastics are taught, with a view to fitting pupils for teachers. We know Prof. Welch to be thoroughly qualified, and his school of gymnastics to be thorough and successful.

Poison in Pipes.—An old woman in England recently prescribed the scrapings of an old pipe for the cure of ringworm. The ashes was rubbed on the part affected in small quantities, but the result was that the child was poisoned and came near losing its life.

LABOR and prudence relieve us from three great evils—vice, want, and indolence.

How to Treat the Sick.

TREATMENT OF SCARLET FEVER BY WATER.—During 1869 we published a large amount of carefully prepared information regarding the treatment of scarlet fever. We refer our readers to that volume for what was then said, and in addition a brief statement proposed by Dr. Jackson. He says:

"The plan to be pursued in scarlatina, simplex is to let Nature takes its course pretty much, giving the patient very simple food, and very little of it; be sure to keep the bowels open and the head cool. In this form the disease is quite mild and tends toward recovery.

For scarlatina anguinosa the patient, immediately on the first symptoms indicating the disease, should keep quiet in a room well ventilated; should abstain from food until the eruption is fairly established and the fever somewhat abated; the head should be kept cool with wet cloths, the feet warm, and the bowels open. The important thing to be done is, to secure an early and definite development of the rash, by making the skin as active as possible. By vigorous action of the skin, the poison works its way from the system without serious involvement of the throat and head. which usually occurs in cases where the rash does not appear early or in a well-marked form. On the first appearance of fever, the body should be enveloped in a wet-sheet pack and kept there until thoroughly warm, when, if the patient has a considerable degree of strength and vitality, a dripping-sheet or a thorough towel bath may be given, followed by dry hand-rubbing until the skin is entirely dry and the blood returns to the surface in reaction from the bath. If the person is feeble, particularly if it is a scrofulous child, the pack should not be followed by a bath, but by thor-

ough rubbing with towels and the dry hands, after which, as also in the former case, the body should be enveloped in wet bandages from the throat to the hips, in this way: A goodsized linen cloth should be folded the width of the throat, wet in cold water, and wrapped in one or two thicknesses about it, over which should be put a dry cotton cloth. For a body bandage a linen sheet may be taken, not too large in size, if the patient is a child, and wet in cool water, from which the chill has been taken, and wrapped about the body from the arm-pits to the hips, over which should be put a dry cotton sheet. These bandages should be wet from time to time, as they may become dry, but should be kept on constantly until the rash or fever begins to subside. Usually, if this plan is followed, the eruption makes its appearance in well-marked form certainly as early as the second day, and sometimes within twelve hours of the first symptoms indicating the disease, the pack having a great tendency to bring the eruption to the surface. After this, the pack should be given or the body should be sponged in view of the symptoms of the case. If high fever presents itself the pack is a most excellent sedative, and will subdue the fever and keep the skin active, only it must be used with caution, as I before remarked, in the case of a feeble child. Should the pack not be required, the body may be sponged with a wet sponge, or with soft cloths wet in cooling water, when the bandages should be re-wet; and the head should be kept cool, the bowels open by enemas, and the room well ventilated. Let the child have good nurses, and the patient be allowed to drink plentifully of pure soft water, with which the throat may also be gargled. Keep the room

and house as quiet as possible. When it seems best to give food, light farinaceous articles of diet should be used, and when the period of desquamation is reached, the person may take more hearty food, but should be careful for some time not to overdo, either by eating or fatigue, or be exposed to wet.

By following these instructions, scarlet fever loses in a great measure its terror. When treated hygienically, unless in the malignant form, it is one of the most easily managed of diseases, and even in the malignant form, which, under the Allopathic treatment is almost always fatal, it is quite manageable. prompt hygienic measures are used in the beginning of the disease, it rarely if ever makes its appearance in the malignant form. In this, as in all other diseases, the sure and the safe plan for all persons to adopt, is that of prevention. It is possible for persons so to live that sickness very seldom, if ever, comes to them, and even when exposed to contagious and infectious disease, to resist the action of the poison. Scarlet fever particularly delights in attacking persons who are gross in their habits of living. Children who are scrofulous, and who eat meat and stimulating food, are almost always sure to have the disease seriously, if not fatally; while children who live on fruits and grains, and drink nothing but pure water as a beverage, very seldom have it. Therefore it behooves all persons who have children and who are living in districts where scarlet fever prevails, immediately to adopt, if not already accustomed to, hygienic ways of living.

How to Procure SLEEP.—Many years ago a curious plan for procuring sleep was announced as a great discovery by a Mr. Gardner. As this plan made some noise at the time, and was reported to have seldom or never failed, we shall give a full description of it. Testimonials of the efficacy of this method

were published by Mr. Gardner, from His Royal Highness the late Prince Albert, Sir F. Buxton Bart, Sir W. Cockburn, Mr. Sheridan Knowles, and other men of eminence. It may be, then, that some of our readers may owe us a deep debt of gratitude for once more placing the priceless blessing of sleep within the reach upon easy terms.

Let us suppose, then, a person to be in a particularly wakeful state, and that he has tossed and tumbled about into the small hours of the morning without any feeling of somnolence. If he should now desire deep repose, the following proceeding must be adopted:

He is to lie on his right side, with his head comfortably placed on a pillow, having the neck straight, so that respiration may be unimpeded. Let him then close his lips slightly and take a rather full respiration, breathing through the nostrils as much as possible. This last, however, is not absolutely necessary, and some persons breathe habitually by the mouth. Having taking the full respiration, the lungs are to be left to their own action, that is, respiration is not to be interfered with. Attention must be fixed upon the respiration. The person must imagine that he sees the breath passing through his nostrils in a continuous stream, and at the instant that he brings his mind to conceive this, apart from all other ideas consciousness leaves him and he falls asleep.

Sometimes it happens that the method does not at once succeed. It should be persevered in. Let the person take in thirty or forty full respirations and proceed as before, but he must by no means attempt to count the respiratory acts, for if he does, the mere counting will keep him awake. Even though he may not now succeed in procuring very sound sleep, he will at least fall into a state of pleasant repose.

Such is the account, somewhat abridged, of this much vaunted "Art of procuring sound and refreshing sleep at will," given by Mr. Binns in his "Anatomy of Sleep." He, it seems, purchased the secret from Mr. Gardner, and hints at his generosity in having made it public gratis. It is founded on the principle that monotony, or the influence on the mind of a single idea, as we have already shown, induces slumber. The inventor had for years suffered great agony with consequent sleeplessness, from an injury of his spine. In this sad condition, opium and other sedatives, were found rather to increase than to allay his sufferings. He was a contemplative man, and at length discovered the secret of "subduing sleeplessness and commanding repose by a simple effort of volition."

The plan is at all events safe and easy of application, and any wakeful reader can test it or himself.—John A. Flemming.

Use of STIMULANTS FOR THE SICK.—At the recent meeting of the American Medical Association, the President, Dr. Mendenhall, in his able address used the following words on the abuse of stimulants and opium:

"The growing popularity in the use of narcotics by hypodermic medication in chronic and slight cases, may well be brought under inquiry. Far be it from me to impugn the motives or to criticise the judgment of my professional brethren. I can not, however, but feel that it is quite possible for us to jeopardize the best ultimate interests of the sick by the frequent prescription of stimulants which is peculiarly one of the notable features in practice at the present time. If we are doing this when avoidable, we are taking a fearful responsibility with those placed under our care; the evils which may be developed and lost long after we are mingled with the dust of the earth. I suggest that we consider this subject carefully, and then act in the light of experience and of conscience. It may be a serious question, also, whether we have yet filled the measure of our duty in giving our influence toward rectifying and ameliorating the results of the habitual use of alcoholic poisons. The institution of inebriate asylums should be more prominently urged upon the profession and the people, directly and through recommendations of State medical societies.

TREATMENT OF HYSTERIC APHONIA.—
Dr. Tanner says that he never fails to cure this obstinate nervous disease by means of electro-magnetism. He places the patient in a chair, gives her one handle of the instrument moistened into her hand, and with the other touches the tongue. The patient then screams out violently, and thus convinces herself and friends that she has not lost her voice.

Ten years ago how very different such a disease would have been treated, and even now would be by hundreds of physicians.

CURE FOR FELON.—As soon as the felon makes its appearance, bind on to it a poultice of yellow clay wet with cold water, from an eighth to a quarter of an inch thick. Wet it as often as it begins to get dry, and put on a fresh poultice two or three times in twenty-four hours. It will almost entirely relieve the pain, and the felon will be ready to lance in an almost miraculously short space of time.—

Mrs. C. R. Fars.

FISTULA CURED WITHOUT CUTTING, TENTING, OB DRUGGING.—Some years ago I was sorely afflicted with a bad "fistula in ano." While developing it was extremely painful, and for years very troublesome and offensive. The doctors prescribed and administered to no good purpose. I went to a "Water-cure." Treatment—careful and spare. Vegetable diet. A general treatment by "packing" (Turkish Bath would have been better). Vapor baths and a small "jet bath," to stimulate the local parts affected. In closing the walls of the tube simple alcohol was injected. The ugly thing was annihilated.—G. E. S.

ANSWERS TO CORRESPONDENTS.

BY A. L. WOOD, M. D.

How to Kcep Cool.—1. The diet should be composed largely or entirely of fruits, fresh vegetables, and wheat-meal bread, or other preparations of wheat and oat-meal. Corn-meal bread and cakes should be seldom eaten, if at all, during hot weather. Avoid all stimulating or heating articles of food, as meats, especially fat and salted meats, butter, gravies, and greasy food of all kinds, sugar, mustard, spices, etc. Do not eat hot food, and especially avoid eating more than the system requires.

- Drink nothing but water, and that only in small quantities at a time. Of course this precludes the use of tea, coffee, and all alcoholic drinks.
- 3. The clothing should be light, light colored, loose fitting, and changed often.
- 4. The entire body should be bathed every day, either in the morning or at night. Farmers and others who perspire freely and are exposed to dust, should bathe at night. They will rest and sleep better for doing so. The whole body can be effectually cooled in a short time, by holding pieces of ice in the hands, or letting a stream of cold water run upon the wrists or ankles.
- 5. Avoid all undue mental or physical excitement.

Variety in Eating.—"I understand The Herald of Health to enjoin the use of plain food at all times, and but few dishes at a meal, as prerequisites of health for nervous and sedentary—perhaps all—persons. Do you recommend that generally the bill of fare for to-day be a duplicate of that of yesterday, or is it entirely safe to vary one's diet as much as may be done without resorting to any article of food you would interdict?"

It is not only "entirely safe" to vary one's food from day to day, but, as a rule, it is desirable to do so. But few kinds should be eaten at a meal, but each meal may be made up of different dishes from the one that preceded it.

Eat more Fruit and take less Medicine.

Fresh Bread.—"Is freshly baked bread unwholesome? And if so, how long after baking before it is allowable to eat bread?"

Yes. No. Ordinary yeast and saleratusraised bread is unwholesome, especially the
hot, fine flour biscuits, which in many families
are a staple article of food. I believe that uext
to fat pork and lard, it is the real cause of
more sickness and ill-health than any other
article of food. These kinds of raised bread
should not be eaten until thoroughly cooled
through, if at all. Aerated and unleavened
bread may be eaten fresh and warm, in fact, it
is preferable then. It is not the warmth that
injures health, but the products of fermentation.

Late Suppers.—"In a recent conversation with a physician, he asserted that our food is best digested during our hours of sleep, and, that except with persons subject to nightmare, it was allowable to eat more and richer food at supper than at any other meal, and that supper should be taken immediately before retiring. Is he orthodox?"

The physician who said that must either have been deplorably ignorant of the laws of physiology, as well as unobservant of the effects of late suppers, or he was anxious to extend his practice by giving advice, which, if followed, would bring him more patients. Physicians of all schools of practice, as a rule, condemn the habit of eating hearty suppers just before retiring.

Bables Caps and Cradles.—"Should bables wear caps before having hair enough to cover the scalp? Should they be rocked to sleep?

Babies should not wear caps. There is no necessity for them, and they keep the head too hot. Cradles are an abomination. If any one wishes to know the reason, let him have a cradle made for himself, then get into it and have some one rock him for an hour. I think he will be satisfied.

Eat more Fruit and less Meat.

Going in Swimming.—Several boys want to know if it is hurtful to "go in swimming" during the summer. It depends upon how and when it is done, whether it is hurtful or beneficial. If you go in several times a day, soon after eating, or when much fatigued, and stay in long, it will injure you. In order to have it prove beneficial, as well as pleasant, the following rules should be observed:

- 1. Never go into the water less than two hours after eating—it is better still to make it three.
- Never go into the water when feeling much exhausted. It will do no harm to go in when you are warm and perspiring, if you are not tired.
- Never go into the water when you feel cold and chilly.
- 4. Never stay in long enough to make you feel chilly.
- 5. Swim and exercise vigorously while in the water.
- 6. Wipe dry before dressing. If the sun shines, expose the body to its rays a short time before dressing.
- 7. As a rule, do not go in more than once a day.

Infants' Food.—"What is the best food for a cow whose milk is used for feeding an infant? I wish to know if green clover is objectionable?"

Green clover is not objectionable in the least. Any of the ordinary grasses, fruits, grains, and vegetables are good. Slops and swill are bad. The cow should have an opportunity for plenty of out-of-door exercise, and pure water to drink at all times.

To Relieve Aching Feet.—When a person has traveled a long distance, and stood upon the feet until they feel aching and uncomfortable, the quickest mode of relief is to hold them in cold water for a few minutes, and then rub thoroughly with the hands.

Drinking Before Breakfast.—"Is the drinking of water before breakfast prejudicial to health?"

No; unless taken in large quantities. It should not be drank IMMEDIATELY before eating, however. As a rule, it is better not to drink unless one is thirsty.

Fomentations.—"What are fomentations, how applied, and when useful?"

Fomentations are applications of heat to any part of the body by means of hot clothsflannel is best. A piece of flannel, doubled from two to four times, is placed in boiling hot water, then taken out and passed through a wringer or wrapped up in a towel, the ends of which are twisted in opposite directions, until the water is expelled so it will not drip. then applied to the part of the body indicated, as hot as can be borne, and quickly covered with several thicknesses of dry flannel, wet flannel should be charged as often as it gets cool-once every three or five minutes. There should be two cloths, so that one may be ready to put on as soon as the other is taken off. Fomentations are useful for relieving pain, soreness, and congestion in any part of the body. They are also useful in promoting action in torpidity of the liver and kidneys, constipation of the bowels, etc.

Talking in Sleep.—"I talk in my sleep. What shall I do to stop it?"

Eat but twice a day, last meal not later than 3 o'clock. Avoid stimulants. Avoid hard study and excitement in the evening. Take as much out-door exercise during the day as you are able to. Sleep on straw, hair, or husks, and have your sleeping-room well ventilated.

Book on Gymnastics.—"Have you a good work on light gymnastics, in which the use of the Indian club is fully treated, and, besides, dumb-bells and wands; which tells when and how much exercise should be taken?"

"Moral, Intellectual, and Physical Culture," by Prof. F. G. Welch of Yale College, is the book you want. See advertisement.

JOHN STACATTO says that children make men better citizens. It is when their children have learned to swear, that men begin to feel that they are stockholders in public morality.

While his mother lives, a man has one friend on earth who will not desert him when he is needy. Her affection flows from a pure fountain, and ceases only at the ocean of eternity.

NOTICES OF NEW PUBLICATIONS.

JOB TUPTON'S REST; or, Ways and Means. A Story of Life's Struggles. By CLARA LUCAS BAL-POUR.

Tom Blinn's Temperance Society. By T. S.

"COME HOME, MOTHER!" BY NELSIE BROOK.

THE HARRER FAMILY. BY EMILY THOMPSON.

JUG-OR-NOT. BY MRS. J. McNair WRIGHT.

DRINKING FOUNTAIN STORIES.

All of the above books have recently been received from "The National Temperance Society" of New York. This society must certainly be very actively at work with its printing presses, in publishing literature which has for its aim the interests of the cause of Temperance, and we do not hesitate to say that if their books have a circulation in any degree equal to the merits of the cause, the fruit will be abundant and good. No other interest of the age so much needs the combined labors of great and good men. Take, for instance, the city of New York. These constitute the municipal legislators of the great emporium of America-eleven whisky dealers, twenty foreigners, thirteen native Americans! This is the record! The 1:quor traffic is, of course, in its glory. Liquor is sold on Sabbath as on all other days. Gin palaces and dance saloons are largely increasing and are more public and shameless than ever. It is inevitable that there must be an increase of lawlessness and crime in the ratio of the increase of crime-makers. Where are we drifting! Were it not for the combined labors of such men and women as have built up the National Temperance Society and Publication House, we fear New York would never rise above its present condition. But now there is hope, and this hope would be brighter, if so many of our leaders, copecially in literature and politics, who give tone to public sentiment, were not against us. We need to-day in the work such pens as Dickens', Mrs. Stowe's, and a hundred others we might name. With the material the Society has it is doing a noble work. The six books, whose names head this notice, have been sent us within a very few weeks, and they are not all they have recently published. Most of them are well written, and the lessons taught can hardly fail to produce fruit a hundred fold. We suggest, however, that the Society make an effort to secure with their present list of contributors, others whose reputation is national, so that they can secure at once the ears of the nation. In reforms, we believe it pays to secure the best workers that can be induced to do the work, for the people will listen to them and heed their lessons. See how completely in science Huxley (the author of the Physiological Studies, now being published in THE HERALD OF HEALTH), has access to the ears of the civilised world. Tyndall's lecture on "Dust and Disease," has been published wherever the English language is spoken, and translated into many tongues. Dickens had but to speak, and the world listened. These men may not have better words to utter than many others, but they make them go farther, and here lies the secret of their power. If the National Temperance Society will, Bonner-like, use its money to pay for the productions of men and women whose voices can not fail to be heard to

the ends of the earth, it will be the cheapest in the end. Let it, if need be, pay ten thousand dollars or twenty thousand dollars for one book. Let its enterprise be not only liberal, but generous to a fault, and let its voice be so loud, pure and sweet, that the nations shall sit enchanted to hear its symphonies.

LIFE AT HOME; or, the Family and its Members. By William Aikman, D. D. New York: Published by Samuel R. Wells, No. 389 Broadway.

The contents of this book are the sum of sermons delivered by the author to the people attendent upon his ministration. As genial, safe, and respectable thought, falling from the lips of a beloved pastor, we doubt not the words were most acceptable to the hearer, but as a work of general utility, it is altogether deficient in originality, and lacks that penetration and sharpness of outline essential to extended usefulness. It is somewhat dull, while at the same time it is not devoid of a pretentious claim to literary insight.

STEPS IN BELIEF; cr, Rational Christianity against Athelsm, Free Religion, and Romanism. By REV. James FREEMAN CLARKE. Boston: American Unitarian Association. 1870.

This book consists of the substance of four lectures delivered in Boston, and is dedicated to the memory of John A. Andrew, late Governor of Massachusetts. It is written in a clear, earnest style, for which Mr. Clarke is noted, and if not always satisfying, it is certainly full of sound thought, forcibly expressed. The first chapter, "How do we know we have a soul, or materialism and immaterialism," is one which is worthy in this world of skepticism to be read by all, and so is the last one on theology and religion.

Talks to My Patients; Hints on Getting Well and Keeping Well. By Mrs. R. B. Gleason, M. D. New York: Wood & Holbrook, Publishers, No. 15 Laight Street. 1870.

I have just laid down Mrs. Dr. Gleason's new work, and I am impatient to take up my pen in praise of it. The book is true to its title, and full of strong points and good counsels. But its chiefest charm for me is that the writer so well understands the so frequent connection of a troubled spirit with breken health, and that from the fountain of her own warm Christian heart, and from her experience as physician, wife, and mother, she knows so well how to

"Minister to a mind diseased,
Pluck from the memory a rooted sorrow, and
Cleanse the stuffed bosom of that perilous stuff
Which weighs upon the heart."

WATKINS, Mass., May, 1870. P. H. HAYES, M. D.

LETTER AND SPIRIT. Winchester Lectures. By RICHARD METCALF. Boston: American Unitarian Association.

This book causes to show what Unitarians believe, and so far as it is possible to do so, the work is fairly done. Those who are interested in the subject, will find it a walcome volume.

THE PUBLISHERS' DEPARTMENT.

The Address Label.—By this method our subscribers can keep their own accounts as to when their terms of subscription close; for instance, if the printed slip has "De70," or "Je71" added to the name, it signifies that the subscriber's term of subscription expires with the December number of 1870, or the June number of 1871, and so on et seq.

Facts for the Ladies.—I have done with it, not only all the ordinary family sewing, but also all our millinery and mantua making, besides frequently encroaching upon the tailor's peculiar province; and this for a family of eight adults. Several of them were grown, engaged in business or professional life. I have wrought on various kinds of material, from Swiss muslin and silk to heavy beaver cloth and morocco, and have two bedquilts, every stitch of which, piecing, quilting, and binding, was done on the machine. When I purchased I was a perfect novice, never having worked on any kind of a machine. The agent was miles away, and there was not then, as now, other Wheeler & Wilson Machines near by. Still, though I never had five minutes instruction, I found no trouble in learning myself. It is as completely under my control as the needle in my hand, and has never needed any repairs. Only two needles have been broken. One No. 2 needle did all the sewing, coarse and fine, for ten years. It is, indeed, our " household pet." It has paid for itself more than once in the sewing-bills MRS. M. A. GAGE. which it has saved.

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THE TWO WIVES.

BY MRS. BLISABETH OAKBS SMITH.

CHAPTER XXII.

DEBAM LIFE AGAIN—THE LITTLE PROPLE—MEN MUST EVER ADVANCE OR DWINDLE—THE TOMB OF THE SERPENT—ITS KISS UPON WOMAN.

THE Professor, busy in his department of old clothes, was often startled to find a protest rising in the depths of his mind against their dusty, moth-worn aspect, but he crowded this back, and went forthwith to prepare a thesis upon their beauty, their utility, their venerable, time-tested respectability. But,

"There's a divinity that shapes our ends, Rough hew them as we may,"

and the gentle scholar found these arbitrary visions that forced themselves against his will upon him, uprooting the old, solid foundations of his thought and character, and presenting himself to himself, in so many lights, all harmonizing in themselves, but all at variance with his habitual and accepted modes of thought. To say that the experience of his dream-life was distasteful to him would be yielding him more than justice, for he arose from this experience an exultant, full man, joyous in the consciousness of a hidden, multitudinous being, glowing with aspiration, warm with a newer and more divine love, and scarcely conscious of impediment. Learning from the schools become more true and satisfactory; words, lost in the mist of ages as to their origin and import, started from his dream-life with the vividness and intelligibility of words written with flame. The eternal past became the living now, with a sense of content, of peace, of hope, love, and faith, that made all-futures a living present also. The very fibers of his humanity rejected the schoolmen's doubts and the theologist's dogmas. Death was a sleep and a waking; life a change and a progress; immortality not half so wonderful as the inception of being; but once begun, it could no more die than God's shadow of light could cease to be.

These records were hidden from all human eyes at this time, for he felt their newness to himself to be such that he cared not to bewilder and disturb another mind therewith. Thus he writes:

"Our friend, the serene Electa, has gone on a brief visit to the Shaker village, and we miss her calm, lovely companionship greatly, the more as Mrs. Pyncham is disposed to assume her chair in the household, and worries poor, dear Cora with perpetual complaints about her housekeeping. This morning we were up to the ears in steam, while the poor, careful soul washed the parlor windows, and even brought the folded cloth to me, showing it very black with the dirt coming from the windows.

"'Dear me!' I said, hardly knowing what I said, 'is it all spiders' legs and flies' bodies?'

"At which she looked at me with great contempt, and cried, 'Mr. Lyford, you've got all kinds of sense but common sense, and all kinds of learning but your ABC. That is smoke, dust, and grime.'

"'Oh! is it? I should never have seen it!' and I must have looked half idiotic in her eyes, as I often do in my own, when I think and see myself individually, with nobody to compare myself with.

"'Nor Cora either, I suppose,' she cried, and began to scrub and creak the glass in a very irritating way, seeing which Cora took my hand and led me like a stupid boy into the library, for these small, vexing things have an effect to quite bewilder me, and make me helpless, not knowing what is expected of me. No sooner was I alone than my vision was resumed at the exact point where it had broken off before, and I, the dull Professor, stepped aside to awake the young, joyous traveler, rich in life and affluent in experience, talking with the child-like yet manful Rodman, and thrilling under the glorious eyes of Zalinka.

THE DREAM CONTINUED.

"It was many hours before the dwarf returned to the old mound and reported the purport of her errand. She had entered the Teocalli and seen the High Priest prostrate himself before the great serpent, who hung upon the cross limp and powerless, with colors faded, and his head prone and without expression. The rites of the temple were suspended, waiting for the oracle, which was dumb, and fear sat upon every face. It was believed that Zalinka and myself still lingered in some of the vast cavernous rooms of the temple, but the vision upon the top of the ancient mound was accepted as a genuine revelation of the ancient and offended gods. Narita had come and gone as of old, no one noting her with especial interest, her movements being al-

ways regarded as more purposeless and eccentric than they really were.

"The statement of the dwarf put us quite at our ease; we were safe from pursuit, and our situation not devoid of comfort.

"'Idees greatly differ in that respect,' interrupted Rodman, rolling himself over on the green turf, and holding up his chin in the palm of his hand, with the elbow upon the ground. 'Twas rather living like a mole in the dark, and musty, too, I opine; besides, them pesky little varmints with their wee babies would have been mighty tiresome, not to say stunning. I couldn't have stood it there long myself, lettin' alone keeping a purty woman shut up in that way. She'd soon be as pale as a potato-stalk growing in a cellar; but go on.'

"For awhile I was interested in the study of these small men and women. They were simple as little children; not pale, as you suppose, for the perpetual fire burning within kept the vast chamber in which they mostly lived dry and comfortable, and free from all that was offansive to the senses. The little creatures were nearly naked, and exceedingly active. Their diminutive size enabled them to spend much of their time upon the open space at the summit of the temple, where they disported themselves in the sunshine without the hazard of being seen. They crept through fissures in the wall, and gathered fruits and flowers, wandering long distances often unobserved, or, if seen, supposed to have come from some neighboring province, from whence they went and came unmolested. If occasionally one of rare beauty was seized, it became the willing captive to the Emperor, and no threats or promises ever wrung from it the secret of its birth.

"They were exceedingly neat in their habits, passing much of their time disporting themselves in a huge artificial tank, which was fed by a living fountain that welled up from the foot of the mound, and flowing onward descended in a tiny cascade to the river. Happy as birds, playful as children, beautiful as all that we conceive of loveliness in the fairy creations of a poet's dream, these small beings sported away their lives without toil, and almost without care.

"I learned, however, that they were subject to one solemn and distressing fear, which heavily weighed upon the older people of the race, and that was the total extinction of the people. They had a tradition that originally they were of what they termed gigantic size, and had been gradually declining till they were reduced as I now found them.

"At first, from their extreme sprightliness, I had supposed them much more numerous than they really were, and I learned that they scarcely counted more than a dozen, only two or three of these being of the masculine sex. One, a small, old fellow, pined away to a little lump of bones of hardly a pound weight, was kept on a gorgeous bed made of the feathers of the humming-bird, wrought into a canopy, and coverlids of gorgeous purple. He was found one morning stiff and cold. I thought the men did not seem to regard his exit as of much moment, but the women were overwhelmed with grief, and redoubled their tenderness toward the only two now left to them; feeding them upon the choicest viands, and decorating them with all that their little store of wealth could supply. They never thwarted or contradicted them, never subjected them to any toil, and though apt to be quarrelsome, they never quarreled with these two.

"'Bating the size,' said Rodman, 'a man might have a sort of clover-lazy time in a place like that. But laziness and coddling don't come nat'ral to full-sized men. Go on.'

"'I have some doubts about that, Rodman. We men do like considerable coddling and spooneying. I have seen the time when I have wished there was some big giant of a fellow to take me up in his arms and to rock me like a baby.'

"'You must have been mighty weak or sick, George. It isn't nat'ral to a well man to spooney. He's game to the last, like the hunted stag turning at bay, and for myself, old fellow, I never cared to kill one, till he showed game and turned upon me. So long as he gave me his flanks he was a poor concern, but antlers to, he was worth the fight. I opine women do not much care for your spooney men.'

"'Only very strong women like such men; they take the place of babies to them, Rodman; they are something to pet, and domineer over; but your weak woman likes best a man of robust nerve and vigorous make, who will supply what is lacking in herself.'

"'There's something in that, George, and I like a woman a trifling weak; it seems more nat'ral to protect her. But go on with your story; I want to see how the little folks come out. Husbands seem to have been very precious in them diggings, and perhaps it would be well if wives generally considered them more than they do, seein' they have to brunt the fight. Go on.'

"Thus admonished I resumed, but could not but observe the thoughtful aspect of my friend, whose brain seemed ill able to solve our social problems. I could not but think what a melancholy lot would be that of the last woman in that deserted temple!

"Though Zalinka had determined that we must ere long leave these harmless creatures and seek a less gloomy babitation, we did not name our intention to them, nor were we really anxious to depart. The air was delicious upon the area of the structure, and the hours we passed in this seclusion were some of the happiest of my life-idle, careless hours, in which to live and breathe was delight. Zalinka, having no memories of the stir and competition of a more advanced civilization, yielded her whole soul to its present content. Nothing could be more seductive than the rich cadences of her voice; nothing more supremely beautiful than the perfection of her sensuous organization, exalted by her dim but fervent religious enthusiasm, which, based upon earth as it was, penetrated to something vast, glowing, and ecstatic in the Unseen.

"She listened to me with eyes of such liquid light and beauty, detecting so many new and wonderful meanings to my words, meanings which I had not seen till then, that every hour she taught me to feel my own value as an existent creation, and made me the more wildly fascinated by her own mysterious charms.

"'All that is nat'ral, but nothing oncommon,' interrupted Rodman; 'I have sometimes thought that one way in which women get such a power over us, is because they make us kind of satisfied with ourselves, and we nat'rally lean to what props us up. They're mighty keen, whether by art or natur' I can't always determine. Go on.'

"Once, as we sat amid the flowering hights of the mound, Zalinka gazing away dreamily at the moon, that was like an ethereal globe suspended above us, and the stars thrones of gold in the blue above, I noticed the mark upon her shoulder was now uncommonly vivid and distinct. Ruby red, its form was clearly to be discerned, a living serpent, confined to its pearly prison by a thin gossamer texture, which i would seem a touch might sever.

"'Is it not beautiful?' asked Zalinka, eyeing it with a smile.

"I shuddered, for I had thought to cut it thence, as a vile disfigurement. Never shall I forget her leok of surprise and sorrow at my suggestion.

"'Beautiful, Teomax!' she exclaimed; 'it is the work of a god! What is this upon your breast but the symbol of human agony? Behold the secret, mysterious, wonder worker! The lines upon his skin contain the arcana of the universe, the form of the head the secrets of the Eternal.'

"'Tell me, how learned you this, most lovely of women?"

"'Listen, Teomax! Our religion is the depository of a worship lost and forgotten, but which held to traditions derived from the earliest believers in the one God, the Supreme Father of all. He created one man and one woman of such great wisdom and beauty that all other creatures came to worship them, all but the serpent, which they both feared. The man feared it more than the woman, seeing which the serpent came oftenest to her, as she sat by a fountain, looking at her own face, than which nothing could be more lovely, and he would lie in the sunshine wondering at her beauty.

"'Now the man grew angry at this, and drove the creature away, whereat the woman grieved exceedingly.

""See you not," she cried, "how the beautiful words upon his back teach us of the round worlds and glowing stars, beyond which is the Great One?"

"'But the man cried, "I see nothing but an ugly beast."

"'The next day the serpent returned, and lifting himself up, he kissed the woman on the shoulder. Then he glided away among the rocks and trees and blossoms, and could no more be found. The woman mourned at his absence, seeing which, the man stooped down and kissed her shoulder as the serpent had done. Immediately he was seized with a great desire to find the creature, and the two went everywhere in the search, therefore, ever since that day the woman has borne upon her person somewhere the sign or mark of the serpent. Sometimes it is hidden in the heart, or in the head, but is always with her, and the man, who received the kiss at second hand, is everywhere and for ever drawn towards her by a hidden and irresistible attraction.'

"'Though you got that story from a heathen and a Pagan, George, who is supposed to know nothing but dumb idols, I do believe she come nearer to the truth about women, than any thing in the books, and it goes to show that they've got a sort of courage in them, and a way of seeing through things that is lacking to us men in that line. That they've all been kissed more or less by the serpent, admits of not a shadow of doubt. Go on.'"

CHAPTER XXIII.

PATIENCE AND PAUL—THE RUSTIC LOVERS— THE SILVER BOX.

ELECTA resumed her place in the home of the Professor, where her presence had become a beautiful necessity, and where she could, unknown to him, direct somewhat the fortunes of Paul.

Janet, assured of the fate of her husband, went about preparing those decent weeds supposed to be essential to grief, and with the aid of logwood and alum converted every available article to a somber hue of black, including her own hands and the long clothes-line extended from a corner of the house to the tall shed-roof of the pig-stye. She gave a tip of black to the moldings of the door, and the borderings of the little curtains of the window, as well as the "smoke-board" which hung across the kitchen fireplace.

Paul had not the heart to leave his mother in her present gloomy mood, and he busied himself in making the little cottage as neat and pretty as possible, thinking, it may be, that some time Patience might be willing to grace it with her presence. The garden soon became a very wilderness of roses, and vines were made to climb the windows and even mount the low roof. The patch of ground, by skillful husbaudry, yielded unworted returns, and his pay in the saw-mill, where he was daily employed, gave them all their needful comforts, and even much more.

Still, like all the boys in that maratime State, he pined for the sea, assured that wealth and rank were only to be secured by that life of peril and bold adventure. He was not entirely at ease about Patience, whose rustic attractions gave him a world of solicitude. In spite of the energetic discipline of the Deaconess, she was growing every day to be a tall, comely girl, with bright laughing eyes, and a redundancy of curls which played the mischief with the Yankees of the neighborhood.

Never was seen such another rosy, witty, merry girl, and whenever the Deaconess would permit her to attend the huskings and quiltings of the day, she was the acknowledged bells and beauty. Paul saw with displeasure that Seth Wyman still dangled in her wake, and that if Patience did not encourage, she certainly did not discountenance his admiration, for she rather liked to have a troop of admirers at her heels, declaring that their quarrels about her were too spicy to be lost. All the coquetry of rustic charms was innate in her. It was curi-

ons to observe the skill with which she evaded an explanation with those whom she entoiled, no less than the diligence of her efforts to ensnare them.

If one, more persistent than another, insisted upon making his cause known, she had ready some pretty pout, or wondering look, and with mock solemnity sent him a diminutive reticule containing a single raisin, which, in rural parlance, meant, "I give you the bag, and a reason." It is known that the vulgar pronunciation of the fruit is in this way.

Paul was indignant at all this trifling, notwithstanding that he did not fail like others to subject himself to the battery of her charms. Passing the window, where she sat at the small wheel spinning flax, he sauntered, listening to her rich voice singing a plaintive air, and as he cast a furtive glance in at the open window, he saw that she was weeping.

SONG.

My true love called me Sweetheart, once-A word to maidens dear; But then he turned himself away, And left me weeping here, And left me weeping here.

My true love has a gallant air, A bright and beaming eye; Ah, woe is me! and woe the day, If my true love should die, If my true love should die!

She must have known even the shadow of the handsome Paul Stearns, for her face and neck assumed a deep blush, and, hastily drawing her hand across her eyes, she looked up with a very becoming smile, and asked,

"How do you like my singing, Paul?" "You know well enough, Patience, that every fool of a boy likes it too well."

Patience touched her foot to the pedal of the wheel and gave it a turn. At which Paul reddened, but said, quite composedly,

"Patience, there is to be a singing festival and party up at the mill on Saturday night, will you go?"

"Yes: I have several invitations."

Paul looked more pale than vexed, and answered, "I suppose, then, that you are already engaged f"

"Malinda Jones and I are going together; we are tired of the boys."

"Well, in that case, I'll go alone; I am tired of the girls."

her lover a look of caution, and began to spin vigorously.

Patience was by no means the awkward girl, eating her bread and butter and singing at the same time, as when introduced in our story. She was now eighteen years old, and, according to New England usages, had reached her majority, and was entitled to some expression of good will from those she had so long and so faithfully served. Accordingly, she was now the owner of a chest of "drawers," containing, beside her freedom suit, sundry sheets and pillow cases, besides quilts and blankets, making her quite an heiress in a small way, which, superadded to her personal charms, well-known diligence, and sweetness of temper, ereated much admiration and interest in the minds of all the marriageable young men in the vicinity.

Nor was this all; many a grave and bereaved widower, in the first gloss of his crape-band, hastened to make a proffer of his experienced heart and rich acres to the handsome girl whose notability was well appreciated in a thrifty population. Old bachelors also found the ice of many winters thawed by her sunny smile; but Patience seemed inexorable to young and old, and it was confidently predicted that "she would go through the woods and pick up with a broken stick."

For several years her relations with the Deaconess had been far from disagreeable, that energetic dragon having been quite disarmed, not by the docility of Patience, but by a sudden stand which she took, as unexpected, and as much to her own surprise, as to that of her mistress. She had never troubled herself much about the abuse she received, saying, "a blow now and then was a good thing to stir up a girl's mettle, and to keep her from dawdering about, and crying and whimpering over little things. She was sure she was sometimes glad to get a blow when she was worried about something else."

She had dodged the dame's uplifted hand, and had laughed in her face, but at the time to which we refer, when she was disposed to be unusually demonstrative, Patience seized the two hands of the woman and held them fast. It was in vain that she twisted, and turned, and pulled, Patience was young, and strong, and resolute, and held her own with a will, and as soon as she could speak, said,

"Now look here, ma'am! I am as strong as you are, as tall, and a great deal younger and better looking. You needn't try to bite, my teeth are much better than yours. You needn't Patience hearing the step of Mrs. Grant gave | wrench and pull, I'm the strongest you'll find.

You shall hear what I have to say, and then I'll let you go." The Deaconess was so fairly out of breath by this time, that she was obliged to keep still and hear what the girl had to say.

"Now you are still, look here, and mind what I have to say. I am tired of going about with the prints of your ugly fingers on my cheeks, and I will not bear it any longer. Do you hear? I will not bear it any longer!" This with great emphasis.

By this time the Deaconess was duite subdued, and, beginning to whimper, she answered,

- "La you! now Patience, I never meant to hurt you. It's only my way!"
- "Well, it's an ugly way, and you must cure yourself of it."
- "To think of all the pains I've taken to make a smart girl of you, and now this is your gratitude!" and she sniffed and drew her face into the shape of a nut-cracker.
- "I know all the good you've done, and all the bad too, and I never will take another box in the face from you; so promise, and I'll let you go."
- "Well, then, I promise; I won't if I can help it."
- "That will not do; you must promise for good."
 - "I promise, certain true."
- "There now! kiss me, and we'll be good friends."

The dragon put her thin lips to the rosy ones of Patience, and was completely disarmed. Patience, naturally affectionate and generous, gave her from that time her whole-souled service, so that the woman often wondered in her beart why she had not sooner learned what a good, bright, faithful girl Patience really was.

Electa interested herself in the career of the lovers in many ways, for she felt a sisterly attachment for Paul, and in the candor of her heart was sometimes prompted to acquaint him with their near relationship, but foreseeing that that might involve much that was detrimental to the memory of her father, she contented herself with dividing with him as opportunity afforded some portion of her worldly goods, under the pretext of carrying out the views of John Stearns, who at his death had in a manner committed the family to her care.

Janet at length resumed her old tidy habits, and was punctual at sermon and prayer, ostentatiously dropping her pittance into the missionary-box, and going about among her neighbors in her decent black, and rejoicing in the

epithet now applied to her of "the Widow Stearns," though in hearing it she might often be heard to mutter, "He was a good creeter, a good creeter!"

Her curiosity was exercised about the silver box, and she one day remarked to Electa that she would like to learn of the Shakers whether he left any thing of the sort at the time of his death, adding.

"'Twas a kind of purty thing, and I would like to know about it, and whose hair he kept so choice; leastwise, I the widder ought to have it for a keepsake. Did you see any thing of the kind?"

Electa's cheek grew pale at these painful memories, and perhaps she felt a revolting, also, at the coldness and greediness of the woman, but she answered, calmly,

- "Yes, Janet; I saw the box in the hands of John Stearns just before his death."
- "Didn't he leave any word for me, his lawful wife?"
- "John Stearns did not name you, Janet; he placed the box in my hands."
- "I'm sure he meant for you to give it to me. I'm the rightful owner of it, Electa, and I shall look to you for it."

Electa's cheek flushed, but she answered in her invariably mild manner,

"When the body of John Stearns was ready for its last resting, I placed the silver box, and the look of golden hair within it, upon his breast, and there it lies now; it and the story of the golden hair are buried for ever with his ashes."

Janet's small eyes dilated with something like awe, as she muttered to herself, "Such things seem a pity, and a waste; they never does the dead any good," but the severe look of rebuke in Electa's face silenced her.

Janet had lately taken to snuff, and her thrifty proclivities undoubtedly suggested a new use for the box, for though naturally penurious, she had an eye to show, and her watch worn at her belt, with its old fashioned seals, was often a subject of envy to her poorer neighbors.

CHAPTER XXIV.

A COUNTRY PARTY-CROSS PURPOSES.

DAUL, despite his admiration for the handsome Patience, resented her coquetries, and often treated her with coldness or indifference, a manner which only evolved a double share of the quality he censured. He forgot that this mixture of maidenly reserve and rustic gayety were the very qualities that held his boyhood in thrall, and evolved the deeper admiration of his youth.

No rustic fêts had been perfect if denied the presence of the lovely Patience, whose feet were the lightest in the dance, and whose voice was the sweetest in the song. At a husking the red ears all seemed to come to her lot, and he by no means relished the scramble of the lads for a kiss on these occasions, though he did admire the saucy way in which she held up the corn in place of her cheek to be kissed. When the maple sugar boiling came round, she was so bewitching in the moonlight that he was half beside himself with jealousy, and instead of competing with the young men for her favors, he grew moody and silent, which by no means added to his own attractions.

Patience saw all this, and had penetration enough to divine the meaning of it, and rather enjoyed his discomfiture, so long as he was not beguiled into any attentions to another.

On the evening of the intended fête, Patience and Malinda Jones delayed their coming till all the others were there, conscious that their arrival would create a sensation; which it did to their heart's content, and the two girl's started upon their round of coquetries, quite to the dismay of the less aspiring maidens. The dauce commenced, and Paul was about to proffer his bow to Patience, when he saw her give hers to David Jones; he none the less readily led the pretty Malinda upon the floor, and so devoted and so confidential grew his attentions that poor Patience could have wept with vexation, and had nothing better to do than to seem to be as equally devoted to her partner for the time being.

Poor David was overjoyed, and began in the intervals of the dance to show that he was more than ready to reciprocate all the kindnesses of Patience. This was a new source of vexation, and she cut him short by saying very peevishly,

"I don't see what every fool of a boy wants to be all the time talking love for; I don't believe in it, and am sick of it."

"Nobody can help being in love with you, Patience; at least I can't," whispered David, fervently.

"Well then, I'm sorry for it; that's all I have to say."

"I don't see what alls you, Patience. I always--" began poor David, but she cut him short.

"Ails me? Goodness! nothing ails me but

sickness to see the fellers make fools of themselves."

"Well, I never thought this of you, Patience! I always thought you the sweetest-tempered girl in the town. I'd no idea you could be so—" he stopped in good time, and Patience finished the sentence.

"'Cross,' you want to say, and darn't. You have been mistaken in me, David. I've got an awful temper. I was bad enough to begin with, and I've been ten years studying with Mrs. Grant. Goodness, David, I'm enough to scare you out of your seven senses!"

Her little man did not see the mischief in the girl's eyes, and he looked at her aghast, inwardly thinking it was just as well to drop the subject.

At length the company collected around the great fireplace, with its raddy blaze roaring up the huge chimney, and nuts and apples were discussed to the measure of ballad and song, and the recital of stories. Several songs were given with much zest, and there were frequent calls for one from Patience, but she was silent, declaring that she had lost her voice with a cold.

Meanwhile, Paul was assiduous in his attentions to Malinda Jones. He named her apple, he counted the seeds in the palm of her hand, and in every way acted the part of a subjugated swain. Seeing this, Patience, who had rejected attentions with such asperity that even Seth Wyman was driven away, now felt her natural spirit revive, and she resolved to sing one song if it choked her. Paul sang the following, the company joining in the chorus.

SONG.

My lady, she is fair— For that I love her well; Rich jewels deck her hair, Their worth I can not tell;

For, rich or fair,
I little care,
But that she loves me well;
But that she loves me well.

My lady has a smile
That parts two rubies bright,
And underneath the while
White pearls are brought to light;

For smiles so rare
I little care,
But that her love they tell,
But that her love they tell.

My lady's voice to hear The birds stop on the spray, And angels might come near To join their harps in play.

Beyond compare
For words I care
That say "I love thee well,"
That say "I love thee well!"

This little song produced a marked effect upon the company, and Malinda did not restrain her admiring gaze upon the singer, for Paul had a fine baritone voice, clear and manly, and sung with taste and expression.

All voices now called upon Patience, but she was all at once so deeply and confidentially talking with Seth Wyman that she did not seem to hear the call. When at length this pretext would no longer suffice, she replied, somewhat sharply.

"I have forgotten every song I ever learned in my life. I have a terrible cold, a very sore throat, a headache, and rheumatism, and can't think of singing."

This was received with shouts of laughter, and still more earnest entreaties for her to sing. Seeing resistance was vain, Patience began in a sort of recitative to sing a favorite string of rhymes often heard in the nursery of old New England families, most likely to have been a huntsman's call to his hounds. It runs thus:

Rusty, Dusty, Piber, Tell;
Doggy, Torum, Torby, Rell;
Oakum, Beachum, Storum, Borum,
Pocus, and Pig-hog;
Ginger, come Bulldog;
Sylvester, come Trimtram;
Turn about Jacknips, with a whim-wham.

These ridiculous words, sung with a grave face and musical voice, were received with vehement applause by the young men, and some covert sneering by the women. Paul laughed with the rest, but he looked her in the face and said, slowly,

"I think such a call, so given, would bring together hounds, as well as puppies."

Patience felt her anger rising, but she turned to the company and said,

"Yes, I will sing you a song: but all must join in the chorus," and she sung the following with a zest and spirit all her own.

SONG.

The lady came to the trysting-place, Her fickle loyer to see; With a joyous heart, and a glowing face She came to the mulberry tree. Under the mulberry tree
Meet me.
I deny him, I defy him;
If he's gone, farewell he.

Oh, she was proud as she was fair, As woman of right should be; She bore her lover a true heart there, But it needs true heart to see!

Under the mulberry tree
Sang she,
I deny him, I defy him;
If he's gone, farewell he.

She plucked a lily from the stream, Its leaves were dyed with red; She plucked a rose as white as cream, It turned as if it bled.

Under the mulberry tree
Sang she,
I deny him, I defy him;
If he's gone, farewell he.

The sun rose high, the sun sank low, Each star her lamp hung bright, As if they waited, long ago, For lover through the night.

Under the mulberry tree
Sang she,
I deny him, I defy him;
If he's gone, farewell he.

She turned her east, she turned her west, Her eyes without a tear; But there was, down upon her breast, A drop of blood, red clear.

> Under the mulberry tree Sat she; I deny him, I defy him; If he's gone, farewell he.

Aye, rattle your spurs, and shake the rein, Hold high your knightly head; But a true heart lost will never again Beat quick at your coming tread.

Under the mulberry tree
Died she;
I deny him, I defy him;
If he's gone, farewell he.

Paul turned pale as he listened, but he was rather angered than softened toward her, and he became a moody escort to the pretty, admiring Malinda Jones on her way home, but as it was in the neighborhood of Patience he could mark her manner without observation.

Patience folded her arms under her shawl as if unconscious of her admiring followers; sud-

denly she turned sharply around and exclaimed, with a mocking laugh,

- "Why! what a retinue! I didn't whistle!"
- "Let any one that likes be called a puppy; I for one won't bear it!" cried poor little Jones, and he turned back.
- "Well, I don't care what a handsome girl calls me," answered the bolder, Seth Wyman, and he offered his arm with rustic grace, to which Patience responded,
 - "Seth Wyman, you are a fool, and a---"
- "Say it out, Patience; I accept the corn beforehand. You mean I'm a puppy."
- "Such talk is very unbecoming; no, I do not want your arm. A woman ought to be as well able to walk alone as a man."
- "Let me have a little plain talk, will you, Patience? Every body knows you like Paul, but that proud fellow doesn't care that for you," and he snapped his thumb and fingers together with a sest.
- "Why, how wise you are, Seth! who would have ever thought you could see so far into a millstone," and she took his arm with a derisive laugh.

Poor Seth was quite beside himself with delight, and began to tell her that he already owned a pair of steers, did not owe any man a cent, and intended to buy Mr. Griffin's house just below the mills.

- "Why, what is all that to me, Seth? Why do you tell me this? it's nothing to me!"
- "But it's a great deal to both of us, when we begin the world for ourselves, Patience."
- "Us? we? who is us and ws? I don't understand."
- "You do understand, Patience; and let me tell you you are fooling too much," and Seth reddened with vexation.
- "Goodness gracious! How can I help it, Seth, if I'm short-witted?"
- "You're the keenest-witted girl in the town, and you know it, Patience. You can fool any of us fellers, and you like to do it, and you know it."
- "What a fright! what a monster! You'd better keep out of my way, at any rate, Seth," answered the girl.
- "That's pretty well, too, when you know I've been after you ever since I was knee-high to a grasshopper."
- "After me, Seth Wyman? the more fool you! I'm in no hurry to make any man miserable."
- "You don't mean it, Patience. You know you'll have me after you're tired bamboosling all the fellers."
 - "You don't mean it, Seth! It's kind in you.

- And all your plans are laid! What should I have Seth Wyman for ?"
 - "For a husband, to be sure."
- "Goodness! a husband is not among my wants," and she gave way to a merry fit of laughter.
- "Oh Patience! you are cruel! I will provide for you, and protect you, and love you," and Seth spoke with a manly earnestness, but Patience answered.
- "Seth, I can provide for myself, and protect myself, and love myself better than any body else can; so just put all nonsense out of your head."

They had by this time reached Deacon Grant's door, and, as they mounted the steps, Seth attempted to put a kiss upon her red lips, which was met by a by no means light slap across the face from the hand of Patience, who opened the door quickly and disappeared within, for this was not the time nor locality for night-locks, and the door was unfastened.

Patience mounted to her little room, but could not resist peeping out to see what became of her admirer. There he was, out in the moonlight, looking intently up at her chamber window. She was more annoyed than pleased at this, and putting her head out said, sharply,

- "Seth, go home! and thank your stars that you're rid of me. The Deacon's wife has almost broke her arm trying to whip me into a good girl, but it's time lost."
 - "Oh Patience! you know better."
- "I'm a real cross, disagreeable, hateful girl, Seth, and I should pity the man that had me for a wife."
- "I'd like to be the man for all that," answered the youth.

Patience laughed merrily. "Don't cry for the man in the moon, Seth. It can't have it. Now, really and truly, Seth, I'm sorry you've made such a fool of yourself; but here is my final answer. Good night!" and she tossed him out a mitten and shut the window.

Poor Seth picked it up, mechanically, and secing what it was, and knowing its import, he hurled the token violently at her window, and, thrusting his hands into his pockets, went away whistling,

"Three-score and ten of us, poor old maids."

THOSE who aim at high intellectual achievements may be assured that no part of their time will be wasted in becoming familiar with the science of organization and life.—Mill.

The Fair and the Offending Foot.

BY REV. CHARLES H. BRIGHAM.

THE foot has not so many uses as the hand, yet it is by no means the least important organ of the body. It is brought into very various and very constant service. Though the lowest of all the organs, nearest to the dust, hidden mostly from sight, and distorted more than any organ from its natural shape, it has still a very important part in the work and joy, alike of savage and of civilized man. It is the organ of movement and activity, and it rules the brain as well by its action as its anguish. More than one English statesman has been forced by gout to relinquish his high duties, and has been made as pitiable a victim as any galley slave. The literal "understanding" gives value and efficacy to the metaphorical understanding. head can not say to the feet, We have no need of you." On this "uncomely" part of the body, there is really an abundant honor. It is the martyr part of the body, suffering all the time in the good which it does, and the grace which it exhibits. Half of the slender feet which are lithe and tripping on the Broadway pavement are really agonizing in their rhythmic movement, and could hardly bring more torment to their owner, if they were burned in the fire. The luxury of a "walk" is dearly purchased in the tortures which it so often involves. Before you can tell the actual state and soul of the man, you must know his feet as well as his head. Achilles is not the only proud leader who has been brought low by a vulnerable heel.

A sound foot gives a sense of freedom to man or woman. It is the first emancipation from the infantile period, when the child stands and steps upon his own feet. His baby life then seems to vanish, and manhood to be distinctly prophesied. And when this foot becomes stronger, and the tottering, doubtful walk breaks into the confident run, what glee and glory in that excitement! There is no exhilaration so quickening, none which so many enjoy, as swift running of any kind. A horse-race will draw larger crowds than any oratory or preaching; Spurgeon or Beecher have more feeble attraction than Dexter or Flora Temple. The excitament in base-ball playing is more in the "runs" than in the catches, and the runs decide the victory. Do not the newspapers give as much space to their record of the triumphs of the feet

as of the brain, in their elaborate reports of the matches of the ball clubs? It was so in the old Grecian days; and Paul was judicious in showing forth his delight in evangelical work by the metaphors of the race-course. Even swift walking, which lacks one element of the excitement of the chase in its measured movement, and its constraint, has honor in our time. Do not eminent and grave citizens, the solid men of New York, publish themselves as patrons of the "walkist," whose praise is that he has walked so many miles in an hour, or so many miles in a day? The wise preacher may be left to starve on a bare pittance, but the "walkist" has his purse of \$1500 for a single day's exercise of his enduring feet.

In our time, so much of the running is done by mechanical substitutes, that the ancient praise of this motion has less meaning. The strange misapprehension of Dr. Watts, when he tells of the "beauteous feet" of those who "stand" on Zion's hill, has more justice for those who read sermons behind stiff pulpits. The Hebrew Prophet saw the messengers of glad tidings so beautiful, because their feet were running so swiftly upon the mountains of Judea. If they had stayed or stood only upon any summit, their feet would have been no fairer than the feet of a brazen idol. Now we have steam carriages and the swift lightning to do our running, and the study is to adjust our laziness to their speed. The height of delight is to recline like a Sybarite in a Pullman car, while it flies across the continent, "swift as an eagle cuts the air." These contrivances are bound on to the feet of this generation, as the wings upon the feet of the classic Mercury. We are coming to do our running by proxy and substitutes; though we have not yet reached the thought and custom of Oriental life, that dancing ought to be done vicariously. A Turk is amused that one who can hire graceful women to do his dansing, while he smokes upon his divan, should go skipping and jumping himself in the heat of the ball-room. His dancing is a more comfortable pleasure, which he can enjoy in quiet, and with no sense of exhaustion. He finds his feet best placed when they are crossed under him and quite at rest.

The feet are not, however, confined to the natural uses of running and walking and danc-

ing. In our civilized life they do excellent service in other ways. In public meetings they stamp applause more loudly than any polite claque or clapping; what American orator is not refreshed in his pauses as the trampling wave runs through the hall? The organist, accomplished in his art, plays as skillfully with his feet as with his fingers, and his double octave of pedals brings out the grand effects from the roaring pipes—his feet rule the storm like the feet of Neptune on the sea. The sewing machine has brought a new use for the feet into myriads of households, and the mother of a family can not keep her own feet still, if she prepares the garments of her offspring, however much she may try to hold their restless feet. The cheap music of the cabinet organ gets its wind through the steady motion of the foot, and reminds us of that famous heroine of nursery song, who could always have music by the "bells on her toes." Nay, have there not been shown as rare signs of human skill, pictures and writings made by the feet, so nice as to counterfeit the best works of the hands, and seeming to prove man quadrumanous, and so to vindicate Huxley's theory of his lineage? If the hands were fairly cut off and cast away, it is probable that the feet would be found very effective substitutes, adequate even to the nicest work,

Of course, with such uses as these, and others which might be named, it is of the first importance that the feet be sound and healthy and able to perform their work. There are native defects in them which must be borne as disgrace; but in general, the feet, left to themselves, have fewer maladies than other organs. The long-heeled negro must take that shape of his foot as a companion to his unfortunate color, and make the best of what he can not help. If large feet are the sign of plebeian blood, their hindrance to honor must be met by merit in other kinds. Not much is gained in attempting, by surgical or mechanical means, to give the foot more comeliness. The Chinese woman is at once helpless and hideous in her bandaged feet, and the American woman who imitates her suffers not much more wisely. An amputation of any part of the foot really spoils its lines of beauty as much as its power of service; a splay foot is better to the eye than one which has been carved and trimmed by the surgeon's knife. No foot is beautiful even encased in its slipper from which we would shrink in disgust if we saw it bared. No artist would dare to show his peasant child on the canvas with two · or three toes, with the broad spread of the end of the foot sharpened to a point or squared to a line. If the number of toes is abnormal, six or more, as in the case of Goliah's son, the amputation of the superfluous members may be pardoned; but even here the freak of Nature may be allowed, as in the case of Dorking fowls, or of some races of cats.

The neglect or abuse of the foot is sure, in the end, to bring one to severe grief. Adonibesek, that Canaan warrior who cut off the great toes of seventy kings, had his own cut off in the end, and perished miserably. Corns, chilblains. gout, all the plagues of the feet, are caused by human folly. Fashion and appetite make mischief with this part of the body that no medicine can remedy. No woman with high-heeled shoes, pitching the body forward, can ever walk with the stately tread of the mother of the gods. What is called the Grecian Bend mocks the real Grecian poss of the body, and reverses the upright carriage of the maids of ancient Athens. If any thing could reconcile one to the trailing dresses, which sweep so ludiorously the dust of city streets, it is that they cover the outrage of feet pivoted and sloping from a central point, with the natural heel abolished, that they hide the hateful cause of the awkward and ungainly gait. The high heels of masculine boots are bad enough, but the high heel of the narrow slipper, taking away all due support from the foot, is simply vile, with no redeeming grace. It spoils the foot for all useful service and for all easy motion. When this nuisance of high heels is added to the nuisance of light shoes, then the offence of the foot is complete, and the sufferer is made to feel that it were better to be cut off, and that life is not desirable in such wretchedness. It is painful to think of the prolonged suicide that so many fair women, saints, as well as sinners, are now won to commit, in their patronage of fashionable shoe stores.

The healthiest and the handsomest foot is that which retains its natural shape, which has as free a play when it is encased in cloth or leather as when it touches the ground directly. The feet of the barefooted Carmelites are dirty enough, but they are pleasanter to the eye than the feet of Parisian exquisites, which are the creation not of the Lord, but of the boot-maker. The Pope might wash such natural feet with more self-respect and with less disgust. The American sect which keeps the Catholic custom fortunately is very far from French fashions in the way of its members. If the foot of St. Peter in the great Cathedral were shaped as the feet of many devotees who haunt that shrine, it is doubtful if it would be so worn away with kisses. The praise of the Grecian heroes that they were "swift of foot," will never be won by the heroes and heroines of the modern cities; such feet as theirs can have no freedom. The Arab who wears his loose slipper, the Indian with his moccasin, are the heirs of this renown of swiftness, with a sole and a heel which rest upon the ground, leaving to the end of the foot its natural liberty, and keeping all the natural curve and spring. It was never meant by the Creator that the feet of man should be supported on the toes like the feet of the lower animals. The whole foot resting on the ground enables man to keep his uprightness, and to have a lofty look upon the heaven, as the classic poet sings. The dignity of manhood is vindicated by this natural place of the foot. The savage may be cunning and treacherous, yet he bears his body in the manly way.

In Kansas there have recently been discovered some wonderful tracks of human feet, which seem to have been made ages ago, if indeed they are not relies, as some think them, of a primeval and prehistoric man. An examination of these tracks in stone, indicates that they are sculptures and not genuine impressions of human feet in the clay, for they vary from the impressions which such feet would make. One is wider and one is narrower than the mark of an average human foot. But the average foot of the respectable citizen of New York or Boston, would make a mark much less resembling the primitive tracks of Adam and his sons. The foot-prints in the mosque of Mount Olivet, and in the Church of " Domine quo vadis," much as they have been ridiculed, are more worthy of the Christ whose name they bear, than the priestly foot-prints of most of the fathers in Christendom, who have been waiting in the Vatican in these last months. It is to be hoped that the prints of the fashionable feet of the nineteeth century may be washed away speedily from the sands of time, and leave no form to be judged by the geologists of the future ages. What strange animal these may show, if they are exhumed after another secular convulsion of the earth! The sole and heel of a Broadway belle or dandy will be a greater puzzle to the escents of that time, than any Calaveras skull in the learned assemblies of to-day. The "boot tracks" will be more mysterious than bird tracks.

How shall we have healthy feet? This is the practical question, and one which may be easily answered. The rules which we give here will be less doubted than some which have been given in previous essays.

1. Keep the feet clean. Wash them often.

That they are usually covered from the dust. does not prevent dust from fastening itself to them. The perspiration which comes out so freely catches uncleanliness, even under the most closely woven stocking and the most nicely fitting shoe. There is no part of the body more liable to become fouled with offensive matter. That the dirt on the feet is hidden from sight does not take away its real disgrace. Any man loses his self-respect when he knows that his feet are foul, though his hands and head may be clean. It is a misfortune that the means of washing the feet are so often wanting, even in costly houses. No chamber is properly furnished which does not meet this need, and has not its foot-bath as well as its basin. It is even more important in hotels, where a bath for the feet is a comfort to the traveler, dusty and foot-worn in his journeyings. Yet not one chamber in fifty in the most sumptuous hotels has any convenience for washing the feet. The churches are not yet likely to return to the style of the first disciples and wash one another's feet; and in default of that fraternal office, every one must do this for himself. It is tribulation to a stout man, who sees his feet by an effort and reaches them with difficulty, but he must meet it faithfully.

2. Keep the feet warm. Cold feet are not only intolerable, but they imperil health and life. Some temperaments are more exposed than others, but all may suffer, if proper precautions are not used. In winter or in summer, the feet ought to be as warm as any part of the body. "The head cool and the feet warm," is a maxim which can not be too often repeated. shoes in winter are a snare to the feet as fatal as any allurement of the dram-shop or gaming house; and many a young woman, who sighs over the follies of her profligate brother, is going as surely as he to physical destruction by unclad feet. No matter how the foot may be enlarged by its coverings, it should always have enough to keep it warm. The kind of covering may vary with the taste of the wearer, but it should be always adequate and ample. Arab guide, paddling through damp snow on the hills around Jerusalem, provokes by his uneasiness unseemly mirth from the pilgrims whom he guides. His morocco slippers unfit him for such a service. Equally ludicrous are the sandals of our American women worn in the streets when the mercury is at zero. Keep the feet warm, so warm that they need not to be "thawed out." The vice of sleigh-riding, which more than balances its rapture, is in the cold feet which it is nearly certain to give.

- 3. And with this goes the advice to keep the feet dry. Washed feet are well cared for, but wet feet are abused, if they are allowed to stay wet. Those who have to work in water need dry feet as much as those who work on the land. The best praise of a boot is not that it is symmetrical, but that it is "water-proof," that one can walk with it dry shod on wet pavement or in the rain. And when the feet get wet by accident, they should be dried as soon as possible. No one should sit in the house a moment with wet stockings clinging to the skin, sending dampness and chill all through the frame.
- 4. Use the feet, if you wish to keep them sound. Let them have plenty of exercise in walking or in working—and exercise which keeps all their parts in play. Lazy feet will be diseased after a time. The feet of a king who does nothing but set upon his throne, or of a Sybarite who reclines continually, will lose their strength after a time, even if the habit of the man is temperate. The dirty foot that runs a great deal is safer than the clean foot that rests always upon its cushion.
- 5. But it is equally important to restrain the fest from overwork, or from too much work of a mechanical kind. Feet which turn a crank, all day long, of a lathe, or a sewing machine, are very liable to take on disease. The disease may perhaps affect more dangerously the related parts of the body, the knees, or the lower organs of digestion, but it comes through the feet. Work done with the feet ought to be intermittent, and to have its frequent intervals of rest. The meanest work which the feet have been put to in our time is in driving the velocipede, that most worthless of all fantastic inven-

- tions. Any kind of treading work, whether grapes in the vat, or the machine in the chamber, should be wisely moderated.
- 6. And we should repeat here what has already been suggested, that the feet may be left as free as possible and allowed to keep their natural shape. Avoid tight boots, tight in any direction, whether at the ends or in the centre. Let the whole foot have easy movement, and not be pressed by its bonds. Eschew all kinds of compression of this organ, no matter what the fashion may demand. Do not try to make the foot smaller than nature has made it, or to get by artificial means an aristocratic foot Humor the native instinct of the organ.
- 7. Still another advice is, "If you would have sound feet, be temperate, be sober." Do not tarry long over the wine. Do not fill the blood with spices and stimulants. Avoid heating food and drink. Gout is not less distressing and dangerous that it is the malady of princes and rulers, and is so eminently respectable. King Asa's fate should be a warning to high livers. The most skillful physician can not save a man who has gout fastened in his feet.

More we might add, and might caution the unwary against the patent corn extractors, which draw more money from the pocket than they draw corns from the feet. Prevention in this matter is better than abortive attempts at cure. We might discuss, too, that vexed question of rubber shoes, which some prize, while others abominate. But these words are sufficient to hint the part of wisdom. A right mind will be more probable, when the "understanding" is sound.

Growth and Development.—VII.

BY ARCHIBALD MACLAREN, OF THE OXFORD GYMNASIUM.

INTERESTING MEASUREMENTS OF SOLDIERS DURING PHYSICAL CULTURE.

MANY years ago I instituted a series of measurements, by which I could ascertain the state of the development of all pupils at the commencement of their instruction, and these measurements being repeated at given intervals, I could know the rate of their advancement. The revelations made by this system of periodic measurements have been such as to

sustain me in devoting my energies to the completion and extension of this system of exercise. I find that to all, child or adult, weak or strong, it gives an impetus, a momentum in the development of his resources, which nothing else can give; and which nothing can take away, because it is not a thing acquired, a mere mental or physical addition—it is the man altered, the man improved, the man brought nearer to the state he was designed to hold by the nature of

his organization. And I think I can not do better than to give the instance of those soldiers who first received a course of training on this system.

The first detachment of non-commissioned officers, twelve in number, sent to me to qualify as Instructors for the Army, were selected from all branches of the service. They ranged between nineteen and twenty-nine years of age, between five feet five inches and six feet in hight, between nine stone two pounds and twelve stone six pounds in weight, and had seen from two to twelve years service. I confess I felt greatly discomfited at the appearance of this detachment, so different in every physical attribute; I perceived the difficulty, the very great difficulty, of working them in the same squad at the same exercises; and the unfitness of some of them for a duty so special as the instruction of beginners in a new system of bodily exercise-a system in which I have found it necessary to lay down as an absolute rule, that every exercise in every lesson shall be executed in its perfect form by the instructor, previous to the attempt of the learner; knowing from experience how important is example in the acquisition of all physical movements, and how widely the exercises might miss of their object if unworthily represented by an inferior instructor. But I also saw that the detachment presented perhaps as fair a sample of the Army as it was possible to obtain in the same number of men, and that if I closely observed the results of the system upon these men, the weak and the strong, the short and the tall, the robust and the delicate, I should be furnished with a fair idea of what would be the results of the system upon the Army at large. I therefore received the detachment just as it stood, and following my method of periodic measurements, I carefully ascertained and registered the developments of each at the commencement of his course of instruction, and at certain intervals throughout its progress.

The muscular additions to the arms and shoulders and the expansion of the chest were so great as to have absolutely a ludicrous and embarrassing result, for before the fourth month several of the men could not get into their uniforms, jackets and tunics, without assistance, and when they had got them on they could not get them to meet down the middle by a hand's breadth. In a month more they could not get into them at all, and new clothing had to be procured, pending the arrival of which the men had to go to and from the gymnasium in their great coats. One of these men had gained five inches in

actual girth of chest. Now, who shall tell the value of these five inches of chest, five inches of additional space for the heart and lungs to work in? There is no computing its value, no power of computing it at all; and before such an addition as this could be made to this part of the body, the whole frame must have received a proportionate gain. For the exercises of the system are addressed to the whole body, and to the whole body equally, and before this addition could be made to the chest every spot and point of the frame must have been improved also—every organ within the body must have been proportionately strengthened.

But I tried another method of recording the results of the exercises. I had these men photographed naked to the waist shortly after the beginning of the course and again at its close; and the change in all, even in these small portraits, is very distinct, and most notably so in the youngest, a youth of nineteen, and as I had anticipated in him, not merely in the acquisition of muscle, but in a re-adjustment and expansion of the osseous framework upon which the muscles are distributed.

But there was one change—the greatest of all—and to which all other changes are but means to an end, are but evidences more or less distinct that this end has been accomplished, a change which I could not record, which can never be recorded, but which was to me, and to all who had ever seen the men, most impressively evident; and that was the change in bodily activity, dexterity, presence of mind, and endurance of fatigue; a change a hundredfeld more impressive than any thing the tape-measure or the weighing-chair can ever reveal.

Up to this point I have spoken but of the beneficial results of exercise as affecting the man, without special reference to his professional duties as a soldier; and I have done so purposely, because it is thus far that systematized exercise is valuable to all alike, and also because it will in a moment be seen that the power of the man and the serviceability of the soldier are inseparable conditions. Our embodied idea of energy activity, and strength, is the soldier, these qualities trained to, made subservient to the exigencies of his profession; and these qualities are the inevitable results, the incontrovertible results of that system of bodily training which I advocate, because the system itself is based upon, and all its directions are in accordance with the natural laws which govern the growth and development of the human body. Endow a man with these qualities, therefore, and you endow him with the power of overcoming all difficulties against which such qualities can be brought to bear, against all difficulties requiring strength, activity, energy, dexterity, presence of mind, tenacity, and endurance. You can not limit a high qualification to a single use any more than you can limit the purpose to which a good coin may be applied; it will fetch its value any where and in any thing. And so will strong muscles and sound lungs in garrison, in camp, or on campaign, on the march, in the field, in the transport, in the hospital, on any service, in any climate.

The same qualities which are so valuable to the soldier are no less valuable to the youths who are about to enter on the campaign of intellectual life. It matters little whether the fight is to be fought out in the plains of India, or in the green lanes of a country parish in England. I shall never forget the reply of a soldier to a question of mine, when inspecting the first squad of men who had passed through a brief course of training at the gymnasium at Warley Barracks. I asked him if he felt any stronger for his practice? "I feel twice the man I did, sir," was his reply; on my further asking him what he meant by that-" I feel twice the man I did for any thing a man can be set to do."

It was just that. The man was stronger, therefore he was not more able for this thing or that thing only, but for "any thing which a man could be set to do."

The first attempt in modern times at a system of bodily training differed as widely as it is possible to conceive from that of the ancients. The ancient system as we have seen, was adopted solely to give strength to the already strong, and dexterity to the already active, but made no provision for, advanced no aid to the feeble, or the inactive, or ailing. It must have been the strong conviction of this shortcoming that warped the judgment and overheated the imagination of Ling, the enthusiast Swede, when he gave the freewill-offering of a laborious life to the preparation of a system of bodily exercise in its main characteristics suitable to invalids only.

With the perseverance peculiar to the possessor of a new idea or of an unique and all-absorbing subject of study, a quality which often outstrips genius in the career of usefulness, be labored unwearied and unrelaxing, elaborating and exemplifying the principles of his Free Exercises. Accepting that exercise is the direct source of bodily strength and that exercise consists of muscular movement, he therefore conceived that movement—mere motions, if they

could be so systematized that they could be made to embrace the whole muscular system, would be sufficient for the development of the whole bodily powers. Carrying out this principle still further, and extending its operation to those who from physical weakness were incapable of executing these movements of themselves, he argued that passive exercise might be obtained; that is, exercise by the assistance of a second person or operator, skillfully manipulating, or moving in the natural manner of its voluntary muscular action, the limb or part of the body to which it is desired the exercise should be administered.

That this last application of his theory is sound, and most valuable for the cure and amelioration of many species of ailment and infirmity, I have had the most abundant evidence supplied by my own experience. That the first is altogether erroneous has been no less fully made plain to me. The error is so deep-seated and so all-pervading, that it lies in a misconception not only of what exercise is, but of the necessity of administering it with a reference to the condition of the individual, on the plain and accepted principle which governs the administration of every other agent of health. And to argue that a given mode of exercise is fit for the healthy and strong, because it is found to be beneficial to the ailing and the delicate, is to argue against all rule and precedent.

But the system of Ling, incomplete, inadequate as it was, possessed one of the essentials of exercise; and therefore, as soon as it was instituted, good sprang from it, and good report was heard of it; and after much disheartening delay, and many rude official rebuffs, Ling saw it accepted by his country. And this must be viewed as the first attempt to bring a knowledge of the structure and functions of the human body to bear upon its culture, the first attempt to lift such culture above the mere "do them good" of other men.

The echo of this good report was heard in Germany; and Prussia, eager to avail herself of every agent which could strengthen her army, adopted it, with some additions and limitations, to form a part of the training of her recruits. But, going even beyond Ling, the supporters of the Prussian system maintain that a few carefully selected movements and positions alone are sufficient for the development of the human frame, and, "simplicity" being the object chiefly held in view, this system aims merely at giving a few exercises, these to be executed "with great precision."

The Mellow Morn.

BY ALPRED B. STREET.

THE broad summer sunbeam fills nature with joy;
To the stars I bend often the knee;
But naught speaks more tender and true to my heart
Than the soft mellow morn on the sea.
For on that sweet image are feelings impressed,
How sacred and precious to me!
Oh no, naught in nature speaks more to my heart
Than the soft, mellow morn on the sea.

How oft have I sat, summer eves, on the shore,'

With the surf-stars all gleaming in glee;'

And whispered low words with but one who could list,'

With the soft, mellow morn on the sea.

Oh, youth's golden effluence gladdened me then,

All sorrows but touched me to flee;

And, save her I loved, there was naught more divine

Than the soft, mellow morn on the sea.

Though now all the heart's hallowed pleasures are locked,
And the jailer, dull Care, holds the key;
Fond memory pictures, save her, naught so sweet
As the soft, mellow morn on the sea.
Oh, the spring brings the bird to the blossom again,
And its rich leafy robe to the tree;
But naught brings my youth, and its feelings so fresh,
As the soft, mellow morn on the sea.

Give us Strength.

Mid the surging seas of life,
And the heart lies crushed and bleeding,
Weary of this fearful strife—
Then, oh give each struggling spirit
Strength to breast the fearful tide,
Strength to mount the surging billows
That arise on every side.

The Uses of Feeling.

BY REV. HENRY WARD BEECHER.

TEELINGS are the proper inspirations of the judgment in all moral and social truth. They are the normal excitants of action. They are interpreters of truth through the understanding. We know the truth if we have the right feelings behind the judgment. This is directly contrary to the popular philosophical impression; for men speak of being blinded by their feelings. They are blinded by them; but they are enlightened by them, too. It is said of a man that he could not form a right judgment, because his feelings were in the way. He certainly could not form a right judgment if he had no feelings. And I affirm, in respect to the far larger and transcendently more important sphere of truths, not only that the feelings are not in the way of forming a right judgment, but that you can not form any valid judgment without them. They are the very womb of truth out of which come true judgments. Abstract truths, purely material truths, truths of matter simply, are to be judged by intellection; but truths of being, moral truths, truths of love and conscience and fidelity and purity, truths of art and literature, and, above all, truths of religion, are to be known only through the intellect magnetized by the feelings. The heart has nothing to do with belief in astronomy, or chemistry, or geology, or mineralogy; but where it is a question of right and wrong, the heart has every thing to do with it. You would not, in the settlement of a nice question of benevolence, appeal to an old hunks who never had any feeling except that of selfishness in all his life; because you would know that he could not understand any thing about such questions. You would not go to a man who was as blind as a mole for instruction in matters of taste and beauty. You would refer the adjudication of truths of art to persons who had some conception of those truths.

Feeling is designed to furnish the motive force by which men act. It is that which tends to produce industry, economy, enterprise, and frugality. It is that which stimulates men to build themselves up in reputation, influence, and position. It is the great active force in society.

We often inveigh against the passions and appetites; but they are God's fundamental forces in this world. You might as well take the spring out of a watch, as the appetites and pas-

sions out of a man. All society would collapse and be worthless without them. Regulation, not annihilation, is what the passions and appetites want. We are not to argue against fundamental uses on account of incidental abuses. All the great enterprises of human life receive their activities from what may be called the basilar forces. Feeling has its function from the bottom to the very top of the scale—namely, the inspiration of the understanding to know the truth, and the exciting of persons to act in accordance with their knowledge of the truth.

If, then, feeling is a motive-power in the direction of thought and action, it should seek its fulfillment in these directions. All the feeling that you can utilize and cause to work intellectually or practically, is legitimately employed. All the surplus is either an evil, or is useless. The law of feeling is strictly a law of use. Feeling without any thing to do, so far from being a thing to be sought, is a thing to be avoided. It is like more food than the body can digest, or more stimulus than the nerves need. It is intoxication. It is self-indulgence. There is many a man that would not indulge in an excess of food or drink, who is for ever seeking to generate feeling. Men often want feeling, not because they have any thing for it to do, but because they want the pleasurable excitement which it affords. Fee should make you a worker, an accomplisher, in the sphere of life where you are, and should make you think wisely and well, and act industriously and well. Feeling that does these things is useful, and feeling that does not do these things is not use-

Feeling, without any other use than the production of pleasure, is a positive injury. It wears out the susceptibility of men in an unnatural way. Fear, for instance, existing as a pure feeling, is not only a torment, but a poison. There is nothing that goads the fiber so, there is nothing that goads the fiber so, there is nothing that so deteriorates physical quality and heal h itself, as pure unembodied fear. But when that same element, instead of existing as a pure emotion, is applied to business, the effect is very different. Then it wakes a man early and warns him of danger. It makes him cautious here and intense there. It stirs him up here and draws him back there. It makes him entorprising, sharp, effective; and

leads him to work to-day for to-morrow, or this year for next year; and fills the mind with wholesomeness, and has no pain. Fear, as an embodied, working force, is not only painless, but eminently beneficial; while unembodied, understanding as a simple quality, it is a torment and a poison.

And that which is true of fear is true of imagination, of love, of conscience, and all the other feelings. Where they exist under circumstances in which they are required to take hold and do something, they are normal and wholesome; but where they exist as mere feelings, they are not beneficial.

There is one function of feeling which ought not to be forgotten. I mean that of refreshment. It has a certain office like that of sleep, which is to wipe away, as it were, the effect of work. It may be said in some sense to recreate the mind. Hence our word recreation. It rests men. Here is the foundation of what we call amusements. Intervals of mere social pleasure have no practical end but that of resting men who are overworked. A man, therefore, who is a grave, earnest, sober man, ought to be jolly. But folks who have nothing in the world to do, are in no need of pleasure. And yet, in real life, this is reversed. People who do not need pleasure are all the time mongering after it; and those who do need it are prejudiced against it, or are situated so that they can not take it. It is nevertheless true that men who bear the burdens of life, and feel the awful responsibilities which devolve upon them, are the persons who ought to be recreated by intervals of pure emotion.

Where feeling exists in this pure, unembodied form, it tends to flood the mind with a kind of self-indulgence or emotive selfishness. Here is the key to the mischiefs which come from theatric representations and fictions, neither of which are in themselves sinful, and neither of which need to be injurious, but which are sinful and injurious simply because men do not understand the law of feeling.

A strong and complex feeling, that, being excited, remains a feeling, and does not convert itself into an action or a judgment, and does not take hold on practical results, nor upon the judgment in any such way as to open the mind to new spheres of truth, acts back upon the mind in an exhausting manner.

What is a fiction? A truth clothed with imaginary circumstances. And if fiction serves to convey to men truth that they did not understand before; if it inspires them to thought, to diligence, to development, to self-culture,

and to a higher life, it not only is not injurious, but is beneficial. But if out of it grow no thoughts, no purposes, and no conduct; if, when one has been under its influence, he feels that he is more than ever cut off from practical life; if he finds himself less and less willing to think, to bear, to labor, and to deny himself, then he has been under the drunken influence of mere feeling. For feeling is intoxication when it exists in high measure. As spirituous liquors produce their effects by producing feeling which has no outlet in thought or conduct, so mere moral spirits do the same thing. There is a great deal of drunkenness produced by stimulating preaching, which does not inspire a man to think any thing or do any thing, but which burns and burns and burns, and makes a man happier and happier, and not better. A man that is happier and not better is worse.

Universal experience has shown that feeling for its highest ends, should be converted into ac-Take, for example, that tion or knowledge. consummate intellectual and emotive state which we call taste. Let a man be inspired with that state in such a way that he has a perception of the finer qualities which exist in beauty, and how does it grow! But let one have the feeling of taste inspired purely and merely as a feeling, and after a little time it will require a great deal more powerful stimulus to develop it, and then a still more powerful stimulus; and at last it will become a fickle thing, irregular and uncontrollable. If, when one is inspired with a sense of the fitness of things, with an apprecistion of glorious harmonies and contrasts, it takes on a practical form, and appears in ribbon, in necklace, in the whole dress, in matching and sorting, then it will be constant and remunerating. It does not require a mansion to develop taste in. A tent, a hut, a hovel, and one or two things brought in and arranged, are sufficient to mark the operation of this feeling. The moment it begins to act in a person, it begins to develop. And the more it acts, the less will it exist as a mere feeling. What becomes of it? It transmutes itself into a factual state. It identifies itself with the process of volition, and runs out through all the thoughts and unconscious states, till one is fully imbued with it, and does things that are beautiful, not because he has the feeling, "This is beautiful, and I will do it," but because the feeling is converted into an automatic and practical condition, so that he does things that are beautiful without thinking of it.

Take the feeling of courage. We say of a man, "He is thoroughly courageous." What do we mean by that? What do you think of when you say that a man is courageous? Do you think of a man that, being all the time full of daring, is for ever manifesting it? No. On the contrary, you know that a man who is courageous is much of the time very quiet. Does he feel courage while he is walking down the street? Probably not once a week. He is full of it, but it does not mount up in any state of feeling. What is it doing? It is bedded in him. It is incorporated in every part of his being. The moment the need of it comes, there it is all organized and pulsating; but until that time it is diffused throughout the man as a latent power, which, like powder, only needs to be touched, to flame out with tremendous force.

How is it with conscience? A man that does not use his conscience often has terrible paroxysms of it; but a man who uses it all the time never comes in to what is called a state of conscience. It comes on him as dew on flowers, and falls on him gently as rain on the ground. He is full of conscience, but it is not concentrated at any single point. It is distributed through the brain, and nerves, and muscles, and skin. It is in every part of him. It pervades his life. It does not, therefore, rise up into a freshet.

Take the sentiment of love. It has a stronger tendency to act in its separate emotive condition than any other feeling. And yet see how it conforms itself to the practical law. How long do two lovers carry the very eastery of

love? Well, it may exist, with great economy, for a short time, as a mere emotion. And here I desire to give some important instruction, in which lies the happiness of men and women in the marriage relation. If you give yourselves up to the influence of the feeling of love merely, you will have a real intoxication for a short time, and that will be the end of it. You must understand that feeling, to last long, must develop itself in the line of conduct. While you may not disdain the hilarity of disclosive feeling, you must understand that it can not be long-lived unless it enters into the judgment and fancy, and fills the whole moral being, the whole life, and works for the object loved in a thousand ways. Then it is immortal. It is the very blood of your life. You can not weed nor rub it out. Mere emotion is transient; but emotion embodied and formed into habit you can not destroy. God has emotion, doubtless; but all the waves of the sea, all the pulsations of the air, all the throbs of the sunlight, all the circuits of natural law, and all the endless processions and bounties of the seasons, are but so many veins in which the love of God is injected, and is working itself out. And all the processes of matter in time are so many symbols, signs and expressions of emotions that exist, not as emotions, but as forces that are producing certain results. And so it should be in us. A feeling should not exist in us as a feeling merely, but should work; and we should give it so much to do that it can not remain a

Transfusion of Blood.

BY B. P. EVANS.

It is a question how far the ancients understood the true function of the blood in vitalizing the animal economy. That they supposed it to sustain a very important relation to life, is evident from many passages in their writings, and, indeed, this intimate connection would be naturally suggested by the inevitableness and rapidity with which continued hemorrhage is followed by death. Homer describes his heroes as breathing out their souls with their blood, as though the former resided in the latter. In all sacrifices, too, the blood and the life are equivalent terms;

and the Hebrews were forbidden to use the blood as an article of food, because, as we are told in Leviticus, "the life of the flesh is in the blood." So sacred and mysterious was this evanescent life, that it was not lawful to consume even the visible vehicle of it. The nearest approach to a correct statement of the problem is given, not by the medical and scientific men of antiquity, but by the poets. In the light of modern physiological discoveries, it is curious enough to read in the seventh book of Ovid's Metamorphoses, how Medea, who was well skilled in the manifold and occult virtues

of plants, made a marvellous decoction composed of Thessalian herbs, flesh and wings of an owl, head of a stag, head and beak of a crow nine centuries old, and a thousand other indescribable ingredients, and by injecting this witch-broth into the veins of the aged Aeson rejuvenated him, so that his hair and beard turned black again, his wrinkles vanished, his pallor was changed to ruddiness, and "the lean and slipper'd pantaloon" was reëndowed with a sudden embonpoint, the "shrunk shank" swelling with surprising vigor to the full measure of his "youthful hose." But still more striking is what she says in the next fable to the daughters of Pelias, who desire to try the same experiment on their venerable father: "Why, foolish girls, do you lack courage to perform this good office? What keeps you in suspense? Take your knives and draw the old blood out of the veins of your father, in order that I may fill them again with young blood and reanimate him with fresh ardor. Drive away with your knives his old age and the corrupt humors of his body, so that I may substitute new forces for them." Of course, we do not for a moment affirm that the Latin poet had any knowledge whatever of the transfusion of blood, as understood and practiced at the present day; yet it is strange to see how near he comes to scientific truth in these apparently whimsical freaks of the imagination. In a series of "Discourses on the Metamorphoses of Ovid," printed in Paris in 1622, the critic, after admitting as a thing not incredible, that Medea, who was as learned in medicine as in demonology (aussi scavants en la medecine qu'en la science des demons), may have prolonged the days of her father-in-law by these extraordinary pharmaceutical preparations, adds that it is carrying the joke too far, to claim that new life could be infused into an old body (mais la fable va trep loing, luy faisant remettre la vie dans les membres morts d'un viel corps); yet, to us, this is the most reasonable and suggestive part of the whole performance, and corresponds most closely to the results of the latest scientific discoveries. The hell-broth which Medea concocted we have little respect for; her incantations over the caldron, in which the horrid mixture is seething and bubbling, excite only disgust; but when she slits one of the old man's veins for the purpose of injecting new atrength and heat into his chilled and sluggish blood, we feel that we are no longer in the presence of a charlatan, but have solid ground under our feet, and seem to be transported suddenly across countless centuries from mythical Iolcos to a Parisian medical school of 1870.

In the present article we purpose to give a summary of the most recent researches on this subject, and the conclusions which have been arrived at, as set forth by a distinguished French authority.* It was supposed by Hippocrates, Galen, and all the ancient physicians, that the blood was constantly formed and renewed in the liver, and that the office of the heart was to propel it to the extremities and surface of the body through the veins as well as through the arteries. Harvey first proved that it circulates, "moving in the same circle, just as the planets move through space, always describing the same orbits." The idea of the transfusion of blood grew logically out of Harvey's discovery; for if the blood circulates, the quickest way of introducing into the physical system any desirable elements of health or renovation. would be to drop them directly into the circulation. Thus Fabricius, a physician of Dantzig, infused purgative salts into the veins; Fracassati, the distinguished professor of anatomy at Pisa, injected aquafortis, spirits of vitriol, and various acids; and although the art of healing may not have been immediately furthered by these experiments, a new method of studying the effect of poisons was indicated by them and a new epoch in toxicology began. The process of transfusion was useful also to the anatomist. In the sixteenth century, Andrew Vesalius had braved the hatred of bigots and the terrors of the Inquisition, in creating the science of human anatomy; after the publication of Harvey's labors, special attention was given to the study of the veins and arteries, and by the injection of colored substances the minute ramification and distribution of the vessels became clearly visible. The Dutchman, Ruysch, particularly excelled in these wonderful anatomical preparations, the secret of which is now lost. In the country of Rubens and Rembrandt the art of harmonizing colors did not aim solely at making "the human face divine" live upon the canvas; the anatomist of Leyden, says Lemattre, understood so well the secret of injections, that by coloring the interior of the tissues, he imparted an appearance of life to inanimate bodies. Toward the end of his career he published, at Amsterdam, a book in which he celebrates the wonders of the anatomical museum of his native city; and, like an artist enraptured with the perfection of his work, he exclaims on the very first page, "I have there little children that have

^{*}La Transfusion du Sang et la vie des Elemens de l'Organisme par Gustave Lemattre. To this essay we are indebted for most of the facts and experiments here presented.

been embalmed for twenty years; they are so fresh and so rosy, that they do not look like corpses, but seem to be asleep."

The ancient doctrine that the life resided in the blood, taken in connection with the discovery of its circulation, led to some curious theories. It was proposed, for example, not only to inject the blood of the young and the healthy into the veins of the old and the sick, but also to change the temper and disposition of men by the same means, transforming the phlegmatic temperament into the sanguine, the coward into a hero, and the choleric person into an embodiment of patience and gentleness; in like manner, it was thought that wild and ferocious animals might be made instantaneously tame and docile. But the disciples of the Old School denounced these practices as a worthy pastime for hangmen and cannibals; besides they ran counter to all traditions, and tended to shake the very foundations of ancient medicine. The adherents of Galen and Descartes showed the serious inconveniences that might arise from an antagonism of the animal spirits, which, according to the Cartesian philosophy, inhere in the life like the mobile particles of a flickering flame. Thus it was said that transfusion would bring the spirits of different animals into conflict and produce fermentation and fever. The phlebotomists, too, insisted that only fatal effects could result from oppressing the patient by the introduction of blood instead of relieving him of it, according to the prescription of the learned and eccentric Gui Patin, professor in the College of France and patri arch of blood-letters. We cite these opinions as illustrations of the foolish positions into which even wise men are forced, when they attempt to decide questions of empirical science by purely metaphysical methods. In such cases the French saying is too apt to be verified, "et le raisonnement en bannit la raison." The only conclusive answer to argumentation of this kind is that given by the chief of the Cynics to the founder of the Stoics: Zeno maintained that all things are fixed and that there is no such thing as motion; Diogenes said nothing in reply, but stood up and walked. Acting in the same spirit, Dr. Denis experimented while his adversaries theorized. In a letter addressed in 1667 to the King's counsellor, M. de Montmor, and cited by M. Lemattre, he relates some of his experiments. The first case was that of a young man about fifteen or sixteen years of age. This youth had suffered from a violent and obstinate attack of fever, and, like the woman in the Bible, had also suffered many things of his

physicians, having been bled by them twenty times. In consequence of this treatment he had become so sluggish and drowsy as to be utterly stupid. Eight ounces of blood were drawn from him, and immediately, through the same opening, a quantity of arterial blood from the carotid of a lamb was injected. About 10 o'clock the patient rose, dined heartily, and fell asleep again at 4 in the afternoon. The result was perfectly successful, the only inconvenience felt being a slight bleeding at the nose soon after the operation. The second experiment was made on a porter of vigorous constitution, and about forty-five years of age. Ten ounces of blood were taken from him and the same quantity of lamb's blood substituted for it. A few hours later he engaged in his usual occupation of carrying heavy burdens, and said that he never felt stronger in his life. He was so delighted with the happy effects of the "new invention," that he came to Dr. Denis the next morning and desired to have the operation re-During this time, and even several years before, similar experiments had been made on the lower animals by Lower, in England. This was done also by Denis, who, in one instance, passed the same blood successively through the circulatory system of three different dogs, which, according to the prevailing ideas of that age, would be, as Lemattre suggests, a relization of the famous Pythagorean doctrine of the transmigration of souls. Unfortunately Denis became involved in a lively controversy on the subject, and philosophical discussion acquired again an undue ascendency The Journal des Suover experimentation. vans of that period, contains most of these polemical documents, which are well worth the attention of those who are interested in studying the aberrations and strange fantasies into which even so-called scientific minds may fall. Very remarkable is an objection offered by a certain M. Lamy, Master of Arts of the University of Paris. Since the blood of a calf, he says, or any other cornuted animal, is composed of materials suited to nourish all parts of the body, if this blood is injected into the veins of a man. what becomes of those particles which were destined by nature to produce horns? In eating veal or any other flesh this difficulty is avoided, because the elements not adapted to the support of man are changed or eliminated by digestion. M. Lamy also expresses a fear lest the transfused blood of a calf should impart to man "the stupidity and the brutal inclinations of that animal." Denis asserts, on the contrary, that transfusion is only a shorter and quicker means

of nutrition, and is suggested by the manner in which the feetus is fed before birth by umbilical transfusion; he also affirmed that the blood of the lower animals is better for men than that of men themselves, for the reason that in men, who are excited by passions and irregular in their habits of life, the blood is less pure than in beasts, which are not subject to such disarrangements. The blood of beasts is never disordered, whereas, that of the healthiest man is always more or less corrupt; as an infant he drinks in hereditary corruption with his mother's milk.

Thus the controversy was carried on with statements and counter statements, often equally absurd, until an unfortunate circumstance gave the victory to the anti-transfusionists. One of Dr. Denis's patients went crazy soon after undergoing the operation of transfusion. This accident put a powerful weapon into the hands of his enemies, especially with the multitude whose intellects could not rise above the fallacy of post hoc ergo propter hoc. Upon the instigation of the Medical Faculty, and in accordance with a decision of the Parliament of Paris, the practice was forbidden by law.

But after the lapse of two centuries, with the new era inaugurated by Lavoisier in chemistry, and the more accurate knowledge acquired of the mechanism of our organization and the formation and function of the blood, the doctrine of transfusion revived and was reëstablished upon a sounder basis of science. The man whose bold and successful experiments during the last twenty years have excited the liveliest interest in this direction, and almost created a new epoch in Physiology, is the eminent Prof. M. Brown-Sequard. The decapitation of two criminals at Paris in 1851 furnished an opportunity of extending his investigations from the lower animals to man himself. The first case was that of a person about twenty years of age. The execution took place at 8 o'clock in the morning; eleven hours afterward, every trace of irritability in most of the muscles had disappeared. At ten minutes after 9 in the evening, the Professor injected into the artery, just above the wrist and in the direction of the fingers, a quantity of blood drawn from his own veins. This blood, which entered vermilion, issued dark from the veins, as would have occurred in life. The operation continued thirty-five minutes, and was followed by a return of irritability and a movement in the muscles of the hand. The second subject was a robust man of forty years, who was also decapitated at 8 o'clock in the morning; at twenty-five minutes after 10 in the

evening, the corpse was rigid and the muscles showed no signs of contractility. The arm was amputated, and at ten minutes after 11, M. Brown-Sequard injected the blood of a strong and healthy dog into the brachial artery. The skin took at first a livid hue, but soon a motion was visible in the bulbs of the hairs, and the cuticle assumed that peculiar appearance known as goose-flesh. As a result of this artificial circulation, the veins of the back of the hand took a bluish tinge, pulsations were perceptible at the wrist, and the muscular life was renewed; the fingers ceased to be rigid, and at a quarter to 12, irritability reappeared in the muscles of the arm, and continued till 4 o'clock the next morning. These crucial experiments prove conclusively that the blood is essential to muscular life. After the organic matter which constitutes the flesh is decomposed, and all vital manifestations had ceased and become impossible under the supremacy of the chemical forces; after the fluids of the body have been changed into acids, resulting in coagulations and cadaverous rigidity, the effect of an injection of arterial blood is to repair the muscle, to restore the original composition of its fluids, to revive its contractility, and to cause it to resume the special movements and functions which belong to life. It is an interesting fact, that transfusion is successful only when the blood used for irrigating the dead member or body belongs to an animal of the same general class, since the globule, which is the essential part of the blood and wholly independent of the vehicle or plasma in which it floats, finds itself in strange surroundings and can become acclimatized only by first having the conditions of its existence greatly modified. Thus, the blood of a fish is not suitable to revivify a reptile, nor can the blood of a bird replace that of a mammal. Another experiment by the same eminent physiologist was made on the head of a dog, which was separated from the body at the junction of the neck and shoulder. The manifestations of life disappeared gradually, until at last the eye lost its expression and become fixed and glassy in death. A current of electricity applied to the spinal marrow soon failed to cause any contractions, and the respiratory movements of the lips and nostrils ceased completely. minutes afterward, M. Brown-Sequard attached to the arteries of the head a system of tubes, and by means of a machine which imitated the action of the heart, caused a quantity of blood, charged with oxygen, to circulate through all parts of the brain and spinal marrow. After the lapse of a few moments, spasmodic twitchings

began to animate the face, becoming more and more pronounced and diffused, until all the muscles became active and the eyes movable. Every motion seemed vital and voluntary, as though produced and controlled by the direct agency of the will. When the operation, which continued a quarter of an hour, ceased, the head passed through the "agony" of a second death, with the same contractions and dilations of the pupil of the eye, and the same convulsive movements and phenomena of pain that it had exhibited before.*

These startling experiments interest the naturalist and the philosopher, as well as the physician. To the healer of fleshly ills, they demonstrate the necessity of oxgynized blood to every organ of the body, and especially to perfect cerebral health and efficiency; and when in a swoon the forces of life, like Cowper's revellers,

"Suffer a syncope and solemn pause,"

these facts explain why a downward position of the head favors recovery by conducting the vivifying fluid to the brain, or why water, thrown into the face, acts upon the nervous centers, quickens the pulsation of the heart, and thus brings the arterialized blood in contact with the cerebral matter and restores the person to consciousness. According to Lemattre, transfusion has been employed, too, as a heroic remedy in cases of arterial hemorrhage and loss of blood following child-birth.† The elements of the nervous tissue, the muscles and the glands being undisturbed and intact, the introduction of new blood restores life to them, just as oil poured into a lamp revives the flame. On the other hand, when there is a change in the tissues themselves, a derangement of structure as the cause of disordered function, all attempts at transfusion are as impotent and useless as it would be to put oil into a broken lamp. Transfusion has been applied also for the purpose of substituting pure blood for vitiated or poisoned blood. Carbonic oxide, for example, is an energetic poison, and, when respired, produces death by displacing the oxygen contained in the globules of the blood, and combining with them to form a substance that is fixed and inert in respect to vital properties. In consequence of this obstruction, the organs cease their functions as completely as if they were suddenly ossified or petrified, or as if they were deadened by the withdrawal of the life-giving blood. This process, however, goes on for some time in the sanguineous globules without affecting the other tissues; and by exhausting the vascular system of its poisoned contents, and putting new blood into the circulation, the life may be saved and the health reëstablished. But great as are the interests here involved, and beneficent as are the results attained, this subject suggests still profounder problems to the philosopher and to the man of science. It raises questions of deep import touching the mysteries of organised matter, the secret of life, the nature of the soul, and many other kindred topics of investigation. which open a vast field of inquiry to the student of physiological psychology, but which we do not propose to discuss at the present time.

Beauty versus Fashion.—I should have no misgivings concerning the speedy elevation and enlargement of character in women, if it were not for their extravagant passion for dress—a passion the gratification of which necessarily absorbs a great portion of their time and attention. The desire to look pretty is natural, and there is nothing blamable in it. The invention of beautiful costume is one of the fine arts, and, like other pleasures of the eye, should receive a due share of cultivation.—Lydia Maria Chiid.

^{*}The idea that life resides in all parts of the body, as for example, in the several sections of a serpent, is expressed by Lucretius in his poem, De Rerum Nature. He describes also phenomena similar, in many respects, to those presented in the French professor's experiment with the dog's head. The individual life of the severed hand and fingers of the hero Laridus, is thus mentioned in Virgil's Eneid (X 385-6):

^{**} Te decisa suum, Laride, dextera quaerit; Semianimesque micant digiti, ferrumque retractant."

The old poets were close observers, and furnish many facts in illustration of the principles of modern science, a.:hough they may have been able to give no rational explanation of them.

[†] The turning point in one of Charles Reade's novels is when Dr. Ashley, under similar dircumstances, "sent some of Griffith Gaunt's bright red blood, smoking hot, into Kate Gaunt's veins;" and as the latter, matched from the hand of death, "learned that Griffith had given his blood for her, she said nothing at the time, but lay with an angelic, happy smile, thinking of it." Thus, in the story, sentiment blends with solence; and in the same connection, we are treated to a little physic-psychological romancing, as for example, when Kate confesses that the operation "had given him a fascinating power over her," and that, as a result of it, she "became a better wife than she had ever been before," and "made his

home bright and genial, so that he never went abroad for the sunshine he could have at home." If one could be sure that such consequences would always follow, the process of transfusion would supersede the action for divorce, and become a popular method of subduing incompatibilities and promoting domestic felicity.

What to Do with My Children.

BY F. B. PERKINS.

KNOW of a library of three thousand volumes on Education. It is miserably incomplete. Now it has been said that a million and a half of books have been written, but only a hundred are worth reading—one out of each fifteen thousand. According to this, one-third of one book is all that is worth reading about education; or, if you will allow that the library I spoke of is half complete, two-thirds of a book. If that is a fair calculation, I may possibly say something worth attending to even in two pages (always provided I have it to say).

The practical questions that arise are many. Public or private school for Bill and Sue? Music or French, or both, or neither, for either? Boarding-schools to finish? College? Scientific school? Business College? Or shall the district school be all, and must Bill go to farming or clerking or learning a trade, and Sue come home to help about the house at fifteen?

A few suggestions only can be set down; and they must be, as far as possible, such that each will serve to answer more than one question.

1. THE MORE EDUCATION THE BETTER.

America is a high-pressure country. The very air stimulates of itself, compared with that of Europe; it is as wine to water. This is curiously illustrated, by the way, by the fact that one can drink twice as much liquor in England as in the United States. I know of an old packet captain whose potations were regularly just half in New York what they were in Liverpool. The fact (by the way again), shows that however unnecessary alcohol is in Europe, it is at least twice as unnecessary here. An American is congenitally stimulated. If he needs any thing at all besides pure cold water, it is not alcohol, but something cooling and lenitive-say flaxseed tea, with a little lemon-juice in it.

But the point I wanted to make is this: America is a high-pressure country, not only climatically, but mentally and financially. The very air makes us jump. Still more does the almost limitless freedom make us jump. And yet more does the instinctive eagerness for prosperity and success in life, let loose by freedom, encouraged by the ease of acquirement, stirred incessantly by the winy lifting of the clear bright air, make us jump. We hurry in all our employments.

And we harry to begin them. What this means is, that the children will have to step into the traces of their business soon enough at any rate. Therefore, to begin with:

Give all your children all the education you can afford. School, academy, college, and professional seminary, will altogether be little enough. Every dollar invested in your child's brain is a treasure only less secure than treasure in Heaven. It furnishes him with some thought, or some knowledge, that will be a use and a pleasure to him all his life long, and which he will never have time to stop and pick up as he races along the crowded path of "responsible" life. The soldier is altogether too late with his drilling when he gets under the enemy's fire.

2. CHILDREN DIFFER; YET ARE ALL ALIKE.

Dr. Bushnell (I believe) said that "Every great truth is made up of two irreconcilable extremes." An instance of this is found in those two sayings of Christ's; in one place, "He that is not with me is against me," and in another, "He that is not against ue is on our part." In like manner, children differ; and yet children are all alike.

The application to school matters is thus: There is a certain number of studies that are indispensable to all. These are what the old fellow called the Three R's-Readin', 'Ritin', and 'Rithmetic. They are Instrumental Studies, and might be still better stated as Language and Number. Reading includes all that relates to understanding the language of others; Writing is making others understand our own recorded language; and Grammar is the set of rules that enable us to correct both. Those are included in "Language." Number may be called the Alphabet of Things; it is as indispensable for dealing with Time and its patrons. or Space and the objects in it, as the alphabet of language is for speech.

The instrumental studies, Language and Number, must be known to all. But in proportion as the children grow up, they will begin to be more and more different. Their poculiarities will show; not all at the same age, for children are like fruits—some ripen early, some late.

The first guiding consideration as to choice of advanced studies is this:

Most children's minds are respectable average minds.

This is not so useless a truism as might be fancied; the difficulty about it is to get it applied. When the clergyman imputes total depravity, every one says, "Yes; that other person is wicked enough," but seldom confesses his his own sinfulness. When you impute fever and ague to a Western town, you will find that there isn't any in this town, but that the next one is rattled to pieces with it. When I say, Most children are average young persons, every mother will assent for all the other people's children, but her own can not be meant; they are the most remarkable children in the place!

Well, madam, I can manage my advice so that we shan't differ, and so as to convince you that I am right on this question of schooling. Your Bill and Sue are regular little geniuses. Very well; then you are bound by all human and divine obligations to train those two remarkable little minds so that they may, if possible, be saved from the special perils of the gifted, and be impelled to use their uncommon powers for the good of their race. That is, they must be carefully kept strong and well, and must be tanght just as much and as long as possible. The more wonderful you think them, the more likely you are to give them something like the education I want them to have.

But the general conclusion about the average children is obvious enough. They should pursue the usual studies, and as many more as they can as far as they can. School, academy, college, are all together little enough.

When the average children must stop studying and must go to earning a living, it is one comfort that they can do it. They can do one thing about as well as another; that is, one ordinary thing, one average thing. They will teach school pretty well if there is a chance, or go to work on a farm, or take a clerkship, or learn a trade.

The other sort, those who have a natural vocation, will in due time say so. And they will be uncomfortable if set at any thing else; and if the vocation is strong enough—vocation means calling, you know—they will rise up and follow the call, and nothing and nobody will stop them. I remember very well two schoolmates of my own. One had a distinct vocation, the other two or three rather indistinct tendencies. The first was everlastingly drawing and writing. He was the best writer in the school, and his pictures were the object of my hopeless admiration. He went on with this picture business; I don't think he could have been com-

fortable in any other. He had an excellent intellect, and was in all things a very respectable scholar, but he could not let Form and Color alone. They called him, and he went after them, and got them, too, and they made him famous. He is Frederic E. Church, the best living landscape painter.

The other used to draw, it seemed to me, almost as well as Church. I can remember now a picture of Æness in a sailboat sailing away from somewhere, on the margin of his Coopers' Virgil. He was musical, too, and learned the flute. He was a good scholar, too, and went to college. He was one of those naturally good folks who never do any thing wrong. He joined the church; and I really don't believe he could remember to have "experienced a change;" he must have always been good; he never "got religion," he always had it. There was nothing brilliant about him, he was always steady and sweet-tempered and industrious. He would have been so in any employment whatever, and in any he would have been reasonably successful. As it was, his father being a clergyman, and wishing his son to become one, too, he did so; went through college, studied theology, was settled in due time in a country parish, would have become a useful minister of the Gospel; but he received an accidental injury and died within a year or two of his settlement. This was Rev. J. E. Hawes, only son of my old pastor, Rev. Joel Hawes of Hartford, whom some used to call "The Pope of Hartford County." He was a curiously different man from his son-but that is physiology, and I fear I have come near enough to discursiveness now.

What Women Ask for.—Give us, say the mothers, the right to protect ourselves and our children-we ask nothing more; we shall be satisfied with nothing less. And how reasonable is this asking may be inferred from a consideration of the nature of the female sex, whether among the lower animals or mankind. The highest instinct of this order of beings is that of desire for offspring and the affection which protects and nurtures it. Unconsciousness of self, devotion to her young, is the token of motherhood, from the tiniest bird in the nest to the savage lioness of the wilderness: the tender grief of the one and the fierce rage of the other over her despoiled home are matters of history since time began, and in them both are typifled the true nature of the diviner mother-of her whom God created in his own image.—Isabella Beecher Hooker.

Training of Children.

BY MRS. H. C. BIRDSALL.

HEN a mother's first delight in her children is passed away, and they have settled into boys and girls, looking and acting just like her neighbors' boys and girls, her training of them becomes more a matter of principle than at first.

And now her government of herself must more than ever go hand in hand with the guidance of her children, and will probably give her even more trouble. In the earliest years of her children's lives her heart was constantly warmed with the thought of the great gifts bestowed upon her, and her love rendered it comparatively easy to control her thoughts, words, and actions. But now, although she loves her children as well, her possession of them has continued so long that she is accustomed to it, and her affection lies, in a measure, dormant. When children are five or six years old, they are apt to take a path diverging from their mother, not necessarily a course of disobedience, but one thronged with new interests. At first they will be very eager to tell her of their discoveries, experiments, and the conversation of their little mates, and it is exceedingly important that the mother should not continually turn them away, but patiently listen to them. We none of us wish to lose our children's confidence, but we take the surest means of accomplishing this, when we refuse to listen to them. A mother's tact will teach her how to incline her children to talk sensibly and at fitting times. And above all, she should have some one time in the day wholly reserved for her children, in which she can lead them to open their hearts to her, telling her freely of their pleasures, their sorrows, their thoughts, and their sins. The twilight hour is the best, for then children are toned down by the exercise of the day and are more inclined to think and talk quietly than at any other time. At this hour children should receive a judicious amount of religious instruction; and to this end every mother should have a definite religious faith. Indeed, an irreligious mother seems to me an anomaly. If a woman has been worldly all her previous life, is not her motherhood enough to change her opinions and feelings? A young mother of very nervous temperament and no religious belief, if that can be, once said to me: "The two years since baby's birth have been the most unhappy of my life. I used to think, that, when my baby came, I should be perfectly happy, and what a disappointment I have had! My love for her is my greatest misery; for, if she has a sick day, I think of the horror of losing her, until I am almost crazy." This, I imagine, is not an extreme case, the only thing unusual being the free expression of a mother's inmost thoughts.

When children have been away from home with a servant or other rerson, the mother should, upon their return, encourage them to tell her of their visit, of the kindness of their friends; but all comments upon food, dress, or manners, should be discouraged. Nothing is pettier nor more calculated to depreciate a mother in her children's eyes, than for her to be inquisitive about the little affairs of her neighbors. The association of our little ones with other children has its two sides, like most other subjects. It is natural for every mother to wish to keep her children from contamination; but, when she goes so far as to fill their ears with cotton when riding in the cars, to prevent their hearing evil, or, never to allow them to go outside of the house precincts without the attendance of an older person, she is avoiding one danger but to fall into another and, perhaps, a more serious one. For the larger portion of the time it is undoubtedly better to keep a family of children by themselves; but, occasionally, they should be allowed to visit their young friends and to receive visits in return.

And when they do so there is nothing that will add more to their joy than the consciousness that their mother's consent was not given grudgingly, and that she heartily enjoys their happiness.

But children's visiting should be done in the daytime, and their evenings should be spent at home, except when, as a rare treat, they are taken by their parents to some fitting and select place of amusement. There is a custom quite prevalent in country towns, especially in New England I have sometimes thought, of children collecting in the evening at one place, often a little inclosure of greensward, or around the steps of a public building, to play games. Very pretty it may look, and pleasant may the merry voices sound to the casual passer-by, but there a much of harm in the custom. In boys, that

fondness for being out evenings is engendered, which results, when they become men, in the so common habit of never passing any leisure time at home.

Where this time is to be spent will be decided by future circumstances. The least objectionable of public places is the country store, to which men throng night after night, ostensibly to discuss matters pertaining to the public welfare, but quite as frequently those miserable neighborhood scandals erroneously supposed to be the sweet morsels rolled only under the tongues of tea-drinking female gossips. The other and worse places of resort it is unnecessary to indicate. By the custom I have mentioned, girls are made hoydenish and acquire loose manners toward the other sex, unless there is in their mental constitution a substratum of great native refinement.

But even the most refined will not escape some injury from such a habit, and I therefore repeat, home is the place for children to spend their evenings. Money spent in providing children with interesting and instructive games and books will prove to be well spent.

And, if the parents so contrive their time as to enjoy the games and books with their children, it will add much to their mutual happiness. The social position of a child's family should not be allowed to interfere with our children's association with him, neither should any faults of manner, for they are the results of want of instruction; and our children, in their simple innocence, may become the most valuably of educators. Moral worth must be the test by which we judge of a child's fitness for association with our children. When a boy or girl is well-known to be guilty of some grave fault of character, that is sufficient reason for keeping our children away from them.

We should plainly state the reason for keeping them apart to our children, but without any harsh expressions in regard to the objectionable ones, who should be recommended to their pity. No expression having a tendency to sow the seeds of pride or any form of Pharisaism should be employed, for the hateful plant once rooted, will thrive and spread, perhaps all a child's life, and certainly until principle comes to his aid in uprooting the weed.

One of the many powerful reasons for the mother's constant diligence and watchfulness in bringing up her children in the best way, is that they may have the less to struggle with when they get to be men and women. We all have trouble enough with our faults, but we are often retarded in our onward course by som

grave trait not natural to us, but implanted by false teaching.

The time has now come for a child to acquire the first elements of knowledge. If the mother has the time and ability for it, it is quite as well for her to teach him at home until he is eight or ten years of age. There are children, I think, who would learn better in a school of the right kind than in home study; they are dull, heavy children with no elasticity, either physical or mental. They have a placid enjoyment of being in the society of a number, and, in the regular routine of a well-arranged school they may acquire more than they could at home, and at the same time suffer no physical injury.

When a child of ordinary brightness is learning his letters at home, five minutes each day are enough to spend upon it, but those five minutes should be observed regularly and punotually.

As the child's knowledge and interest in learning increase, the time for study can very gradually be lengthened, until, almost unconsciously to himself, he spends two or three hours of the day in the acquisition of book-knowledge. Such a course renders the transition to schoollife comparatively easy, and is certainly preferable to the custom of immuring little growing children in school-rooms for five or six hours a day, or to the opposite extreme of pursuing muscular Christianity so far as to let one's children run wild without any consideration of their minds. If a child is inclined to pursue study to the neglect of bodily exercise, he should not be restrained from it forcibly, the mother can easily contrive ways to make out-doors attractive. If the child does not enjoy play, he may be glad to do some light work for his mother. Or his mother may teach him to exercise his love of study in the "solemn school of nature." It is no more right to press forward a child of less than medium capacity, from the fear of his remaining a dunce all his life, than it is one who excels his fellows.

Now duty must begin to be systematic. However light and simple the work of the little ones may be, they are old enough to feel a sense of obligation, and to learn to be regular and punctual in the performance of their duties.

There are few children who do not enjoy being of use to those whom they love, and the desire of being helpful should be the grand motive in all their labors.

The custom of hiring or bribing your children to do for you is laden with harm. It weakens parental authority, and teaches the children to be selfish, lazy, and covetous. The value of money should be taught in due time and the right way, but a thoroughly false idea of it is conveyed by this habit. Children should be encouraged in assisting those outside of their own family circle.

There is that lonely old lady living a little distance from you, she dreads the sight of children, for they are to her the incarnation of mischief. Some day when your little boy is restless and can not think of any thing to do, let him go to the old lady and ask to do an errand for her. The old lady may shrink from the sight of him with fear and trembling, for there are her flowers and her bird and her sedate, matron cat, and is not this their sworn enemy, a boy?

Never mind, you may accomplish a double good by sending him. If you have trained your boy aright previously, he will have so much respect for the property of others as not to trespass. He will learn the happiness of practicing the golden rule, the old lady's heart will be thawed by the attention, and, perhaps, she may, in time, "Suffer little children," for the reason that "of such is the kingdom of Heaven."

Day after day poor Mrs. E.— overworks herself in preparing meals for a number of farm hands, attending to a large dairy, doing her own housework, and caring for a fretful, sickly baby. Send your little girl with your soft-cushioned baby carriage to give the baby the air and exercise it so much needs. Children soon learn to feel happiness in well-doing, and opportunities are abundant.

Children should have but few toys, and these should be of the most substantial kind. Boys must at first have some genuine toys-the hobby horse, the cart, the velocipede, etc.; but soon the best of toys will be a hammer and nails, a hoe, a spade; and, as he advances in age, such tools may be added to his stock as he shows an aptitude for using. Some parents will spend a large amount in the aggregate for flimsy toys and picture-books, but, when a boy uses a good many nails, or is constantly wanting a hammer or some other useful tool, they draw back, shake their heads, and begin to think that a "stop must be put to it," not remembering that they paid for the last toy, which was cast aside after one day, enough to furnish the boy with nails for several weeks.

The girl must have the inevitable doll, and I would that every little girl in the land were supplied with one as large as she can carry, and with plently of materials for dressing it at her pleasure. I am not sure but a society for the distri-

bution of well-developed, handsome dolls to the little daughters of all mothers unable to supply them, might do as much good as many a society with a more pretentious appellation.* A little girl's first lessons in sewing should be taken upon articles of her doll's wardrobe, which she should be taught to cut and make neatly. The taste for sewing of a more advanced nature will come in time, if she is not forced into it when too young.

I think it is a mistake to give little girls a daily task of knitting or sewing, just for the sake of their learning these useful accomplishments. Some one may say the gratification of making father's shirt or knitting mother's stocking will give sufficient zest to the labor, and so it might, if stockings and shirts could only be made the size of similar articles for doll's wear. We must remember that children are not capable of grasping as large ideas as grown people. I think any mother who, as a little child, was daily obliged to knit so many rounds on a stocking, or to sew a stated length of seam, will agree with me that she has never since done any thing which seemed so wearisome and endless. I once saw two precise little ladies making an afternoon visit with a lady, who had adopted them when she was quite advanced in life. One was seven and one was nine years old, and all that long summer afternoon, when the sweet air and sunshine, the singing birds, and the nodding flowers were calling them out to the enjoyment of a child's delights, they sat clicking their needles upon some mature-looking gray stockings. I, dividing the afternoon on a lawn near by, between making chains and wreaths of flowers and reading a well-loved book, was at length called in by the neighbor whom the industrious children were visiting.

I was placed before them and thus addressed:
"There, young woman, do you see them little
gals, and how useful they air? That's the
way your mother ought to bring you up, instead of lettin' you be for ever readin' or outdoors learnin' to be good for nuthin'." Those
children seemed to me for long years the personification of hypocrisy, and I can not yet believe that they really enjoyed that afternoon
visit. When I went out of the house the brightness of the day was gone for me. My pleasant
thoughts and fancies had vanished, and in their

^{*}We believe in dolls for girls, as does our author, but we must protest against the thousands of homely, horrid ones that the shops supply. They distort the taste of children and offend the taste of cultivated people, especially of those who have any taste for physical perfection. —Rditor H. of H.

place were wounded feelings. Pain, anger, resentment, and disgust at the woman's coarseness and want of appreciation of there being any thing for children but prosaic labor were struggling together. Most children hear such words at some time, from those who have no right to say them; mothers should keep their children as much as possible out of the society of the cynically inclined.

They can do much to correct the evil effects of such communications by being in the close confidence of their children, who will then come to them at once with their troubles and have them removed by the kind advice, which teaches them how to look upon life in a healthy, natural way. The mother can, also, sometimes take her children into her confidence, explaning to them something of her opinions and plans for their instruction in all branches of knowledge. Such a course will likewise prevent children from drifting into habits of reserve.

A child should not, unless peculiar circumstances call for it, be reproved before others, but alone with the one whose duty it is to reprove him. The idea that he will be more ashamed of his fault if it is exposed to others, is only partially true—his shame may be greater, but his contrition less, for his mortifleation will be rather for having been detected in his fault than for the wrong act itself, and he will very soon contract the habit of concealing his faults. Just as long as a child comes to his mother to tell her of his faults, she may think that he is not going far astray.

As children advance in age, they are very curious about the habits and customs of their adult friends. The mother must see that what ideas they gain are correct and pure. For instance, instead of hearing through injudicious friends and servants of beaux and being married, they should be taught by their mother to think of marriage as a holy institution ordained of God, of which they may not think and speak lightly.

My two little boys have just rushed into the room, with sparkling eyes and glowing cheeks, one bringing a handful of wild flowers and a pansy which he calls a velvet flower; the other having his hat full of stones, which, from their glistening appearance, he calls gold stones. I pause in my writing to examine them. I show them the petals, pistils, and stamens of the flowers, telling them the names of each part. I tell them enough of the composition of the stone to make them eager for more information at another time. Thus, day by day, I hope to teach them some of the rudiments of valuable

sciences, and to increase their love of the beauful in Nature.

Children's books should be selected with great care, and, at least, the story-books should be carefully perused by father or mother, before being put in their hands. Parents are too apt to take advantage of the deluge of modern storybooks, to pamper their children's taste for reading with stories full of gushing and over-abundant sentiment. The result is that the children, perceiving the vast difference between their own life and that of which they read, come to think of the latter as the real, and spend much time in vain longings for a condition which they will never attain. There is a great plenty of excellent books for children. Stories abound of natural life, and books of a more substantial character; but to choose well requires good judgment, the judgment of intellect and hightoned moral and religious feeling. Some children very easily manifest a taste for reading books commonly supposed to be the mental food of older people. This is well enough, if they are only entirely kept from novels, and made to read slowly' the works which are allowed them. There are novels which contain absolutely no mawkishness of sentiment, and these it would be safe to put into a child's hands; but they are so few in number, and so much discretion is requisite in their selection. that it is better to make the rule with no exceptions, until the child has attained the stature of a man, and such a healthy knowledge of life and character and sentiments, that he can choose for himself between the gold and the dross.

Children should be taught to think little of dress; but a mother should dress them well. To do this, it is not necessary to have any great variety of dress; but the clothes should be of good quality, of becoming styles and colors, and never loaded with the burden of ornamentation, in providing which so many foolishly-fond mothers wear out their strength and drain their purse. Children should be taught neatness in the first place, by always clothing them according to their occupation. When they are very young, not beyond the mud-pie stage, they should be made clean every day when through with their fancy cookery. When older, they should be taught to play and work in such a way as to keep clean; but they should never be fretted at nor scolded for soiling or tearing their clothes, or any thing else, in fact. A pleasant, quiet word of reproof is more effectual than a hundred words of fretfulness.

When children have acquired some knowl-

edge of work, they should begin to learn something of the value of money, and that it can be obtained by the employment of their knowledge of work. Their duties to their parents and friends should be as carefully performed as ever without a thought of pay, but there are many other means for an active boy or girl to earn money which every parent can think of for himself. After the money is obtained, it is important that it should be invested well. Parents approving their children for hoarding all they get, are as much mistaken as those who admire their children's generosity in lavishing all their little store upon their little friends. Some part of their money they should lay away for the future, where it will gain some interest; a certain definite portion of it they should, of their own free-will, give to some charity of which they have a personal knowledge; some they should spend upon their friends, and some they should, without fear of parental frown, spend for their own pleasure. If children are not taught even before they can talk, that the legitimate use of a penny is to buy a stick of candy, it will not be difficult to guide their taste to the selection of more worthy objects.

OUR STUDIES IN PHYSIOLOGY.

BY PROP. T. H. MUXLEY.

THE FUNCTION OF ALIMENTATION.

THE great source of gain to the blood, and, except the lungs, the only channel by which altogether new material is introduced into that fluid, is the alimentary canal, the totality of the operations of which constitutes the function of alimentation. It will be useful to consider the general nature and results of the performance of this function before studying its details.

A man daily takes into his mouth, and thereby introduces into his alimentary canal, a certain amount of solid and liquid food, in the shape of meat, bread, butter, water, and the like. The amount of chemically dry, solid matter, which must thus be taken into the body, if a man of average size and activity is neither to lose nor to gain in weight, has been found to be about 8,000 grains. In addition to this his blood absorbs by the lungs about 10,000 grains of oxygen gas, making a grand total of 18,000 grains (or nearly two pounds and three-quarters avoirdupois) of daily gain of dry solid and gaseous matter.

The weight of dry solid matter passed out from the alimentary canal does not, on the average, amount to more than one-tenth of that which is taken into it, or 800 grains. By no other channel does any appreciable quantity of solid matter leave the body. It follows, therefore, that in addition to the 10,000 grains of oxygen, 7,200 grains of dry solid matter must pass out of the body in the other, or gaseous and liquid secretions. Further, as the general composition

of the body remains constant, it follows either that the elementary constituents of the solids taken into the body must be identical with those of the body itself; or that, in the course of the vital processes, the food alone is destroyed, the substance of the body remaining unchanged; or, finally, that both these alternatives hold good, and that food is, partly, identical with the wasting substance of the body and replaces it; and, partly, differs from the wasting substance, and is consumed without replacing it.

As a matter of fact, all the substances which are used as food come under one of four heads. They are either what may be termed Proteids, or they are Fats, or they are Amyloids, or they are Minerals.

Proteids are substances analogous in composition to Protein, and contain the four elements—carbon, hydrogen, oxygen, and nitrogen, sometimes united with sulphur and phosphorus.

Under this head come the Gluten of flour; the Albumen of white of egg, and of blood serum; the Fibrin of the blood; the Syntonin, which is the chief constituent of muscle and flesh, and Casein, the chief constituent of cheese; while Gelatin, which is obtained by boiling from connective tissue, and Chondrin, which may be produced in the same way from cartilage, may be considered to be outlying members of the same group.

Fats are composed of carbon, hydrogen, and oxygen only, and contain more hydrogen than is enough to form water if united with the oxygen which they possess.

All oils and vegetable and animal fatty matters come under this division.

Amyloids are substances which also consist of carbon, hydrogen, and oxygen only. But they contain no more hydrogen than is just sufficient to produce water with their oxygen. These are the matters known as Starch, Dextrine, Sugar, and Gum.

It is the peculiarity of the three groups of food-stuffs just mentioned that they can only be obtained (at any rate, at present) by the activity of living beings, whether animals or plants, so that they may be conveniently termed vital food-stuffs.

Food-stuffs of the fourth class, on the other hand, or Minerals, are to be procured as well from the not-living as the living world. They are water, and salts of sundry alkalies, earths, and metals. To these, in strictness, oxygen ought to be added, though, as it is not taken in by the alimentary canal, it hardly comes within the ordinary acceptation of the word food.

In ultimate analysis, then, it appears that vital food-stuffs contain either three or four of the elements: carbon, hydrogen, oxygen, and nitrogen; that mineral food-stuffs are water and salts. But the human body, in ultimate analysis, also proves to be composed of the same four elements, plus water, and the same saline matters as are found in food.

More than this, no substance can serve permanently for food—that is to say, can prevent loss of weight and change in the general composition of the body—unless it contains a certain amount of protein in the shape of albumen, fibrin, syntonin, or casein. While, on the other hand, any substance which contains protein in a readily assimilable shape, is competent to act as a permanent vital food-stuff.

The human body, as we have seen, contains a large quantity of protein in one or other of the four forms which have been enumerated, and, therefore, it turns out to be an indispensable condition, that every substance which is to serve permanently as food, must contain a sufficient quantity of the most important and complex component of the body ready made. It must also contain a sufficient quantity of the ingredients which are required. mineral Whether it contains either fats or amyloids, or both, or is devoid of both, its essential power of supporting the life and maintaining the weight and composition of the body remains unchanged.

The necessity of constantly renewing the supply of protein arises from the circumstance that the secretion of urea from the body (and consequently the loss of nitrogen) goes on continually, whether the body is fed or not; while there is only one form in which nitrogen (at any rate, in any considerable quantity) can be taken into the blood, and that is in the form of a solution of protein. If protein be not supplied, therefore, the body must need waste, because there is nothing in the food competent to make good the loss of nitrogen.

On the other hand, if protein be supplied, there can be no absolute necessity for any other but the mineral food-stuffs, because protein contains carbon and hydrogen in abundance, and hence is competent to give origin to the other great products of waste, carbonic acid and water.

In fact, the final results of the oxidation of protein are carbonic acid, water, and ammonia; and these, as we have seen, are the final shapes of the waste products of the human economy.

From what has been said, it becomes readily intelligible that, whether an animal be herbivorous or carnivorous, it begins to starve from the moment its vital food-stuffs consist of pure amyloids, or fats, or any mixture of them. It suffers from what may be called nitrogen starvation, and, sooner or later, will die.

In this case, and still more in that of an animal deprived of vital food altogether, the organism, so long as it continues to live, feeds upon itself. In the former case, those excretions which contain nitrogen, in the latter, all its waste products, are necessarily formed at the expense of its own body.

But though protein is the essential element of food, and under certain circumstances may suffice, by itself, to maintain the body, it is a very disadvantageous and uneconomical food.

Albumen, which may be taken as the type of the proteids, contains about 53 parts of carbon and 15 of nitrogen in 100 parts. If a man were to be fed upon white of egg, therefore, he would take in, speaking roughly, 3½ parts of carbon for every part of nitrogen.

But it is proved, experimentally, that a healthy full-grown man, keeping up his weight and heat, and taking a fair amount of exercise, eliminates 4,000 grains of carbon to only 300 grains of nitrogen, or, roughly, only needs one-thirteenth as much nitrogen as carbon. However, if he is to get his 4,000 grains of carbon out of albumen, he must eat 7,547 grains of that substance. But 7,647 grains of albumen contain 1,132 grains of nitrogen, or nearly four times as much as he wants.

To put the case in another way, it takes about four pounds of fatless meat (which generally contains about one-fourth its weight of dry proteids), to yield 4,000 grains of carbon, whereas one pound will furnish 300 grains of nitrogen.

Thus a man confined to a purely proteid diet, must cat a prodigious quantity of it. This not only involves a great amount of physiological labor in comminuting the food, and a great expenditure of power and time in dissolving and absorbing it; but throws a great quantity of wholly profitless labor upon those excretory organs, which have to get rid of the nitrogenous matter, three-fourths of which, as we have seen, is superfluous.

Unproductive labor is as much to be avoided in physiological as in political economy; and it is quite possible that an animal fed with perfectly nutritious protein matter should die of starvation, the loss of power in various operations required for its assimilation overbalancing the gain; or the time occupied in their performance being too great to check waste with sufficient rapidity. The body, under these circumstances, falls into the condition of a merchant who has abundant assets, but who can not get in his debts in time to meet his creditors.

These considerations lead us to the physiological justification of the universal practice of mankind in adopting a mixed diet, in which proteids are mixed either with fats, or with amyloids, or with both.

Fats may be taken to contain about 80 per cent. of carbon, and amyloids about 40 per cent. Now it has been seen that there is enough nitrogen to supply the waste of that substance per diem, in a healthy man, in a pound of fatless meat; which also contains 1,000 grains of carbon, leaving a defloit of 8,000 grains of carbon. Rather more than half a pound of fat, or a pound of sugar, will supply this quantity of carbon. The former, if properly subdivided, the latter, by reason of its solubility, passes with great ease into the economy, the digestive labor of which is consequently reduced to a minimum.

Several apparently simple articles of food contain a mixed diet in themselves. Thus butcher's meat commonly contains from 30 to 50 per cent. of fat. Bread, on the other hand, contains the proteid, gluten, and the amyloids, starch and sugar, with minute quantities of fat. But, from the proportion in which these proteids and other constituents exist in these substances, they are neither, taken alone, such physiologically economical foods as they are when combined in the proportion of about 200

to 75; or two pounds of bread to three-quarters of a pound of meat per diem.

It is quite certain that nine-tenths of the dry solid food which is taken into the body, sooner or later leaves it in the shape of carbonic acid, water, and urea (or uric acid); and it is also certain that, as the compounds which leave the body are more highly oxidated than those which enter it, and as free oxygen is nowhere eliminated, all the oxygen taken in by the lungs passes away in these compounds.

The intermediate stages of this conversion are, however, by no means so clear. It is highly probable that the amyloids and fats are very frequently oxidated in the blood, without, properly speaking, ever forming an integral part of the substance of the body; but whether the proteids may undergo the same changes in the blood, or whether it is necessary for them first to be incorporated with the living tissue, is not positively known.

So, again, it is certain that, in becoming oxidated, the elements of the food must give off heat, and it is probable that this heat is sufficient to account for all that is given off by the body; but it is possible, and indeed probable, that there may be other, minor sources of heat.

ORIGIN OF THE Wig.—The dissipation of Henry III., of France, brought on diseases by which he lost his hair. He covered his dishonored head with a wig, and the courtiers and fops of Europe soon felt ashamed to be seen with their own natural growth of hair. This hot, unhealthy, and unbecoming appendage to the human head continued in vogue till the French Revolution, when it was swept away with other external signs of aristocracy. But for a long time afterward it was deemed a mark of democratic vulgarity to appear on public occasions without a wig. A Prussian clergyman, who attempted to preach with his head uncoverod, incurred such serious risks that the Government was obliged to interfere for his protection; and a Spanish judge came very near losing his office by committing the same indiscretion. To this day judges and lawyers do not venture to show themselves in court, till they have covered their shapely heads with enormous wigs, frightful to look upon .- Lydis Maria Child.

Our happiness does not consist in being without passions, but in having command of them.

EDITORIAL DEPARTMENT.



NEW YORK, AUGUST, 1870.

WATER.

"To the days of the aged it addeth length; To the might of the strong it addeth strength; It freshens the heart, it brightens the sight; "Tis like quaffing a goblet of morning light."

BAT THE PUBLISHERS do not hold themselves as indorsing every article which may appear in THE HERALD.

They will allow the largest liberty of expression, betieving that by so doing this magazine will prove to be more useful and acceptable to its patrons.

BS Exchanges are at liberty to copy from this magasine by giving due credit to The Herald of Health and Journal of Physical Culture.

TOPICS OF THE MONTH.

BY M. L. HOLBROOK, M. D., EDITOR.

THE DEATH OF CHARLES DICKENS.—
A LESSON.—At the time of our going to press with the July number of The Herald of Health, the death of Charles Dickens was announced; but we felt impelled to delay any notice of it for that number, that we might have the fullest particulars of the sad event. And now that the united voice of the press has extolled his virtues, and, if it were possible, magnified his work, and the world has shed tears at his departure, and dropped flowers into the grave sacred to his memory, there seems little left for The Herald of Health to do, unless it draws a lesson from the case, and sounds a note of warning to others, who, like him, may cut short

their career a score or more of years. This is the most painful duty of all. Dickens was the world's friend. All loved him. Though not always satisfying, we loved his books; and far above all we loved his manly independence, his thoughtfulness of the poor, downcast, and distressed; his hatred of capt, and not least his success in the labor he undertook to do. Far be it from our saying that we respect all men who succeed. We mean that we love the successful man when he succeeds in honestly doing good work. But he who succeeds by fraud, by lying, over-reaching, and trampling under foot the less powerful than himself, we have no love for. If we do not hate such men, we hate their meanness, and would shed no tears over their graves. But Charles Dickens never succeeded by meanness. We know that he worshiped goodness, and whatever may have been his weaknesses, we well know they were more than balanced by redeeming traits of character. But now he is gone, at the rather early age of 58 years. His disease was apoplexy. He died suddenly, with his harness on.

Better by far to die thus than of decrepid old age, full of aches and pains, full of deformity, and imbecility. But old age should not mean, imbecility and infirmity. The dew of youth would more often crown the brow of a centenary, if the heart were kept young and the body vigorous. Apoplexy is the cause of death of very many gifted men. It is characterized by sudden loss of consciousness, sensation, power of motion, and perception, caused by the pressure of blood in the brain, or, if severe, by the rupture of a blood-vessel, and the escape of blood into the tissues of the organ. In all cases there is weakness of the walls of the vessels that carry the blood, so that they can not pass it onward as fast as it arrives. Fatty degeneration of an artery may occasion it. And now what was there in the habits of Charles Dickens that brough

about this condition? He thoroughly understood part of the laws of life. He made it a rule to balance mental work by physical exercise, to be methodical in his business habits, to keep his brain free from stimulants of any kind while engaged in his work, and to cultivate a happy, joyous life, and a full enjoyment of all its pleasures.

In many respects, his habits were such as would promote longevity. He was hearty in manner; he had a compact, muscular system, and was exceedingly fond of athletic exercises. He walked many miles every day, and believed in bathing, water-cure, animal magnetism, and practiced it on his friends.

But, on the other hand, he did not believe as we do, that temperance in living, and full control of his appetites, were absolutely essential to health of mind and body. A particular friend of his writes:

"At Gad's Hill, his habits became more confirmed. He drank more often. His liquors were of the choicest kind. Wines of the rarest vintage were stored in his cellars. Highly spiced beverages came to be liked, and he was vain of his skill in compounding them. The "cider-cup of Gad's Hill"—a drink composed of cider, limes, brandy, pine-apple, toasted apples, lemon-peel, and sugar-became famous as a specialty of the place. A friend of mine who spent a day and night at Gad's Hill last year, a gentleman to whom Dickens felt under great personal obligations, and for whom he may therefore have emphasized his hospitality, describes his visit as a continued bibulous festivity from noon till midnight. There was the cidercup, we found, on arriving at 121/2 P. M.; sports in the open air till 2, when came brandy and water; a long walk through the fields till 6, when curacoa, with other liquors, were served; dress; dinner from 7 till 10 o'clock, with every variety of wines; and then pure spirits or various compounds of spirits, until bed-time."

Another writer, under date of July 25, 1869, speaks of how the day was spent at Gad's Hill: "On our arrival, at 12½ o'clock, commenced with the "cider-cup," which had been ordered

previously to be ready for us-delicious, cooling drink-cider, sodawater, sherry, brandy, lemonpeel, sugar and ice, flavored with an herb called burrage, all judiciously mixed. Lunch at 1 o'clock, completed by a liquor which Dickens said was 'peculiar to the house.' to $5\frac{1}{2}$, we were engaged, in a large open meadow at the back of the house, in the healthful and intellectual employment of playing 'Aunt Sally' and rolling balls on the grass; at 31/4. interval for 'cool brandy and water;' at 61/2 we dined; dinner faultless, wines irreproachsble; 9 to 10, billiards; 10 to 11, music in the drawing-room; 11, 'hot and rebellious liquora.' delightfully compounded into punches; 12, to bed."

Now, almost all physicians, when speaking of the causes of apoplexy, tell us that most conspicuous among them are excessive brain-labor, mental excitement, fatigue, physical exertion, and, above all, stimulating drinks; these and a stomach overloaded with indigestible food, are exciting causes which almost daily destroy those already predisposed to apoplexy.

Dickens himself felt that he was using up his life-forces too fast, but, unwilling to restrain his appetite, or mistaking the causes of ill health. he attempted to remedy the difficulty by greater exercise, when suddenly the death-blow came. To what other conclusion can we come, if we apply the law of physiology, than that the most famous literary man of the age-who ought to have lived a score of years longer, who ought to have ripened into a grander man than he was, and crowned his life by richer contributions to literature—cut short his days by excesses at the table and over the cup. It is a sad lesson to teach over the grave of one so loved, and more than once we would have stopped our pen, but it would not stop. And now that our duty is done, may we not hope that the seeds of this lesson will bring forth fruit an hundred fold in the rich soil of humanity?

NAUSEOUS MEDICINES.—Dr. William Dale, an English practitioner, proposes to the medical profession to hide the nauseous qualities

of medicines by sugars, agreeable syrups, acids, etc. He declares that the difficulty of getting children to swallow bitter pills, powders, and draughts is a serious one, and is no slight hindrance in the treatment of disease. It has always seemed to us that the nauseous qualities of medicines was a powerful argument against their use. Instinct declares them objectionable. She recognizes their true qualities before they enter the stomach, and gives warning. We believe Nature's warning ought to be heeded. Parents, when your child refuses to take the bitter bolus you have prepared for it, know that its instinct is more reliable in this case than your reason, and act accordingly.

QUERIES UPON INSANITY.—It is well known that the oldest son of Queen Victoria, the Prince of Wales, is by no means a model man either in intellect or morals. Much caution and finesse are requisite to keep him at all well-esteemed in the eyes of his subjects yet to be. Licentious in his tendencies, with a decided proclivity to what is of low esteem, and erratic in character, he inherits the worst qualities of the Guelph blood from his insane ancestors, and which the honest manliness of the father was not able to counteract.

There is another fact connected with the history of this unfortunate youth, which unquestionably throws the balance still farther against him. Born of blood hereditarily insane, he was suckled by a mad woman, who subsequently in a fit of frantic madness murdered her own children, three in number, we believe. She was a robust, healthful woman, selected as peculiarly fitted for the task involved. Now, the question arises, Was this nurse incipiently insane while suckling the royal child, or was there an insane sphere about the child which she absorbed from her maternal sympathy with it? A case in point has but lately occurred. Some guardians were conducting an insane man to the Asylum in Utica, N. Y., and a brother of the lunatic was with them, who was greatly distressed at the situation of his companion. It was observed that the insane man, who sat by the side of his brother, grew at length perfectly calm, even more so than the rest of the party. Suddenly the other one sprang from the seat uttering terrible shrieks, and the two rushed upon each other in a frightful contest of brute power. The sympathy of the one had overpowered his reason, and both were lodged in the same asylum frantically mad.

Facts like these must lead us to solemn questioning. Is insanity so much hereditary as to be commonly asserted as contagious? A member of a family having suffered in this way-the other members would be naturally filled with compassion for the sufferer, which is of itself enough to engender the malady, and to this would be naturally superadded the dread of a. like infliction. It must be that the wet-nurse of the Prince of Wales knew, as every body in. England does, that the Queen had been several times partially insane; now, dwelling upon this idea in her responsible situation, might have upset a feeble intellect, and caused the duty of nursing the child to become irksome and. painful to her, hence her subsequent madness.

No idiot becomes the parent of a genius—idiocy must be hereditary, but that strength of some faculties, that weakness of others, that infirmity of some kind which prostrates the will, and makes the person morally irresponsible, which renders the mind fragmentary, is a fearful subject of thought and speculation, and one not as yet investigated as its solemn importance demands. How one combination creates a genius, another a criminal, a third a madman, should cause us to pause and consider, before we sit in judgment upon each other.

Who made us to differ? We have more than once given expression to our opinion, that no one commits crime in a normal human state; but the normal state of many is, unfortunately, that which must and will produce crime, and hence the criminal should be entitled to our compassion, while it is just that society should be protected from the injuries he is likely to inflict upon it.

ABSURD REMEDIES.—The latest development of female medicine is made by a colored lady practitioner in Florida, who prescribes, as a specific for rheamatism, a pine-knot over which a cart-wheel has passed, grated, and taken in decoction. :Perhaps it invigorates the cartilage.

—Medical and Surgical Reporter.

The specific above alluded to is no more nonsensical than one sent to us, recently, as a sure oure for the same disease. It was to carry, in a bag next to the skin, a potato, until it become dry and hard. Neither of these remedies, however, are so absurd as are some published in The London Pharmacopœia within a hundred years, and regarded as orthodox by the profession. For instance, the fat of a country mouse, applied externally, was recommended for pain. Hysteria was treated by the oil of frogs, obtained by boiling live frogs in olive oil. The memory and judgment were to be made good by tea boiled in wine. The liver of a green freg and wolf, and the gall of a black cat, were prescribed for epilepsy, and so was the powdered skull of one who had died a violent death, used for the same malady. The brain of sparrows and calves mixed and dried in smoke was used for vertigo. Hydrophobia was treated by river crabs, gathered in dog-days, and calcined alive; and to the wound was applied the hair of the dog that had bitten the patient, also the blood, hair, liver, or heart of the mad animal were used internally. Oil of earth-worms was used for convulsive coughs. Ants-eggs and onions were used for deafness. Quinsy was treated with cataplasms made from swallows-nests. specifics seem very absurd, but, after all, may they not be quite as good as many of the remedies of the present day?

Ballooning and Health.—A subscriber asks what effect balloon ascensions have on the health. We have never tried the experiment and know of no reliable data from which to form an opinion. Wise, the great aeronaut, spoke highly of aerial navigation for invalids. Gay-Lussac injured his health by ballooning. He once attained a hight of 23,000 feet, four and

one-sixth miles, or 2000 feet higher than the top of Chimboraso Mountain. The barometer was only thirteen inches high; the thermometer 18 degrees Fahrenheit below the freezingpoint, while at the surface of the ground it was 80 degrees. He left the courtyard of the Conservatoire des Arts et Metiers, in Paris, and, after an aerial voyage of six hours, descended near Rouen, one hundred miles distant. The result of this ascension on Gay-Lussac's health was very injurious, partially by the want of air for respiration, combined with sudden cold, but chiefly by the absence of the accustomed pressure. At the extreme hight of 22,000 feet, his face and neck were swollen enormously, his eyes protruded from his head, blood ran from the eyelids, nose, and ears, and also came from his lungs by vemiting; in short, his system received a shock from which it never fully recovered during the rest of his life.

"THEODORE THORNTON, M. D."-It will be recollected that former volumes of THE HERALD OF HEALTH contained a series of papers entitled, "Recollections of a Retired Physician, by Theodore Thornton, M. D." They proved very acceptable to our readers, because of the telling "revelations" or confessions as to the errors of the old school of medicine which they afforded. The time has come to say that "Theodore Thornton, M. D.," was Dr. J. E. Snodgrass, with whose real name our readers are also familiar. And we take occasion to state that this valued contributor is now really a "retired physician." His health having suffered while practicing medicine in New York. Dr. Snodgrass has returned to his native South. He is now practicing law in Washington, partly with the view of making himself useful to such of his large circle of arquaintances as may have Government claims calling for relia- . ble attention. One of the penalties which Dr. Snodgrass suffered at Baltimore, for the "crime" of being an "abolitionist" in the olden time, was exclusion from the practice of his present profession, which was his "first love." He has resumed the law late in life, his age being now

about fifty-six, but we venture to predict success for him as a lawyer, not less than he has had as a doctor and a writer.

OBJECTIONS TO WOMEN PHYSICIANS .-The London Lancet of recent issue, reiterates the old objections to women physicians that have been answered a thousand times. It can no more see why women should become doctors, than children should. Each, it says, have bodies subject to special diseases, therefore, if one should be doctors the other should, too. Fallacious reasoning this. "Fancy," it says, "a fastidious young lady just out of her teens, sent for at midnight to attend a case of childbirth." With equal propriety he might have said, "Fancy a fastidious young man just out of his teens, receiving a midnight summons on the same errand." One case would be about as absurd as the other. Neither sex have a right to assume the responsible position of practitioner of the healing art unless they have the requisite age, moral, intellectual, and physical qualifications, and we might add, experience. The experience must be gained by association with others who are older and have been in practice for years. But people who are sick will not call fastidious girls or boys just out of their teens, and so the objection falls to the ground.

Interesting Experience in Diet.—
A subscriber to The Herald from Cincinnati, writes us as follows:

"We have lived for over twenty years on a vegetable and fruit diet mainly, and have raised a family of eight children, including twins and triplets, without employing a physician for disease but twice, and then he gave no medicine. My oldest son had the small-pox a year ago; we consulted an old physician after he had been broke out ten or twelve days. The doctor said he was doing 'first rate,' and did not need medicine. We have lived for several years on two meals a day, and like this arrangement much. Now, my wife is teaching in several of the public schools of this city (Cincinnati, O.), and six

of our youngest children attend school, and we are obliged to be more irregular in diet.

My wife is over fifty years old, is able to walk two miles or more and teach drawing all day, and then walk home again at night. We fully believe that a simple vegetable and fruit diet is sufficient to enable people to endure severe labor. One of our triplets, a girl under ten years old, will not eat a mouthful of fleshmeat of any kind. She would go without her dinner before she would eat any thing that had even chicken broth on it, and yet she is as hardy and healthy a child as we have.

WARREN HUTCHINS."

HAIR-WORMS.—" To the Editor of The Herald of Health—DEAR Siz: Will you kindly explain by what law of physiology it is that a hair from the tail of a horse turns into a hairworm, if such is the case, as many believe?

Truly, M. K. C."

Answer.—Horse hairs turn into hair-worms only in the imagination. You might soak the tail of a horse in rain-water for a thousand years, if it would last so long, and it would be no more like a hair-worm than before. This nonsense is taught to children by their playmates and ignorant people, and thus the notion descends from generation to generation. There are such things as hair-worms, but as a female of these worms a foot long can lay 5,000,000 eggs, they need no help from horse-tails to propagate. They are parasites living in bugs and flies, coming out to undergo a part of their transformations.

AFRAID OF THE TRUTH.—There are entirely too many people in this world who are afraid of the truth. This timidity is a result of mental weakness and disease. Eyes long kept in darkness are pained by the vivid light, and so people long in ignorance of the truth can not bear its brightness. Truth is a complete panacea for all the ills of false education, and we should hail it with enthusiastic delight rather than timid fear.

How to Treat the Sick.

AN AFTER-DINNER PRESCRIPTION. -

Old Rip Van Winkle had a grandson, Rip, Of the paternal block a genuine chip; A lasy, sleepy, curious kind of chap; He, like his grandsire, took a mighty nap, Whereof the story I propose to tell In two brief cantos, if you listen well.

The times were hard when Rip to manhood grew;
They always will be when there's work to do;
He tried at farming—found it rather slow—
And then at teaching—what he didn't know;
Then took to hanging round the tavern bars,
To frequent toddies and long-nine cigars,
Till Dame Van Winkle, out of patience, vexed
With preaching homilies, having for their text
A mop, a broomstick—aught that might avail
To point a moral or adorn a tale,
Exclaimed, "I have it! Now then, Mr. V.!
He's good for something; make him an M. D.!"

The die was cast: the youngster was content;

They packed his shirts and stockings, and he
went.

How hard he studied it were vain to tell;
He drowsed through Wistar, nodded over Bell,
Slept sound with Cooper, snored aloud on Good;
Heard heaps of lectures—doubtless understood—
A constant listener, for he did not fail
To carve his name on every bench and rail.

Months grew to years; at last he counted three, And Rip Van Winkle counted himself M. D. Illustrious title! in a gilded frame
He set the sheepskin with his Latin name,
Ripum Van Winklum, quem—we scimus—know
Idoneum esse—to do so and so.

He hired an office; soon its walls displayed
His new diploma and stock in trade,
A mighty arsenal to subdue disease
Of various names, wherefore I mention these:
Lancets and bougies, great and little squirt,
Rhubarb and Senna, Snakeroot, Thoroughwort,
Ant. Tart., Vin. Colch., Pil. Cochiæ, and Black
Drop,

Tinctures of Opium, Gentian, Henbane, Hop,
Pulv. Ipecacuanhæ, which for lack
Of breath to utter men call Ipecae,
Camphor and Kino, Turpentine, Tolu,
Cubebs, "Copeevey," Vitriol—white and blue,
Fennel and Flaxseed, Slippery Elm and Squill,
And roots of Sassafras and "Sassaf'rill,"
Brandy for colics—Pinkroot, death on worms—
Valerian, calmer of hysteric squirms,
Musk, Assafostida, the resinous gum
Named from its odor—well, it does smell some—
Jalap, that works not wisely, but too well,
Ten pounds of Bark and six of Calomel.

For outward griefs he had an ample store,
Some twenty jars and gallipots, or more;
Seratum simplex—housewives oft compile
The same at home, and call it "wax and ile;"
Unguentum Resinosum—change its name,
The "drawing salve" of many an ancient dame;
Argenti Nitras, also, "Spanish flies"
Whose virtue makes the water-bladder rise—
(Some say that spread upon a toper's skin
They draw no water, only rum or gin)—
Leeches, sweet vermin! don't they charm the
sick?

And sticking-plaster—how it hates to stick!

**Emplastrum Ferri—ditto Piscis, Pitch:*

Washes and Powders, Brimstone for the—which,

**Scabies or Psora, is thy chosen name*

^{*}This prescription, prepared by Dr. Oliver Wendell Holmes for the Massachusetts Medical Society, was taken by them at their annual meeting, held May 25, 1870. We prescribe it for all who wish a hearty laugh. Let it be read aloud to a small number of persons when the waather is too warm for serious thought. If Dr. Rip Van Winkle himself should chance to peruse the lines, let him be thankful that he has been so tenderly treated by the Great American Humorist.

into flame.

Proved thee the source of every nameless ill, Whose sole specific is a moonshine pill, Till saucy Science, with a quiet grin, Held up the Acarus, crawling on a pin? -Mountains have labored and have brought forth mice.

The Dutchman's theory hatched a brood of-

I've well nigh said them-words unfitting quite For these fair precincts and for ears polite.

The surest foot may chance at last to slip And so at length it proved with Doctor Rip. One full-sized bottle stood upon the shelf Which held the medicine that he took himself; Whate'er the reason, it must be confessed He filled that bottle oftener than the rest; What drug it held I don't presume to know-The gilded label said, "Elixir Pro.",

One day the doctor found the bottle full, And, being thirsty, took a vigorous pull, Put back the "elixir" where 'twas always found, And had old Dobbin saddled and brought round. -You know these old-time rhuberb-colored nags That carried doctors and their saddle-bags; Sagacious beasts! they stopped at every place Where blinds were shut, knew every patient's

Looked up and thought-the baby's in a fit, That won't last long, he'll soon be through with it:

But shook their heads before the knockered door Where some old lady told the story o'er Whose endless stream of tribulation flows For gastric griefs and peristaltic woes.

What jack-o'-lantern led him from his way, And where it led him, it were hard to say; Enough that, wandering many a mile Through paths the mountain sheep trod single file.

O'ercome by feelings such as patients know Who dose too freely with "Elixir Pro.," He tumbl-dismounted, slightly in a heap, And lay, promiscuous, lapped in balmy sleep.

Since Hahnemann's goose-quill scratch'd thee | Night followed night, and day succeeded day, But snoring still the slumbering Doctor lay. Poor Dobbin, starving, thought upon his stall, And straggled homeward, saddle-bags and all; The village people hunted all around, But Rip was missing, never could be found. "Drownded," they guessed; for more than half a year

The pouts and eels did taste uncommon queer; Some said of apple-brandy, other some Found a strong flavor of New England rum.

-Why can't a fellow hear the fine things said About a fellow when a fellow's dead? The best of doctor's—so the press declared— A public blessing while his life was spared, True to his country, bounteous to the poor, In all things temperate, sober, just, and pure. The best of husbands! echoed Mrs. Van, And set her cap to catch another man.

So ends this Canto; if it's quantum suff., We'll just stop here and say we've had enough, And leave poor Rip to sleep for thirty years; I grind the organ; if you lend your ears To hear my second canto, after that We'll send around the monkey with the hat.

CANTO SECOND.

So thirty years had past; but not a word In all that time of Rip was ever heard; The world wagged on—it never does go back; The widow Van was now the widow Mack; France was an Empire; Andrew J. was dead, And Abraham L. was reigning in his stead. Four murderous years had passed in average strife.

Yet still the rebel held his bloody knife. -At last one morning-who forgets the day, When the black cloud of war dissolved away? The joyous tidings spread o'er land and sea, Rebellion done for! Grant has captured Lee! Up every flagstaff sprang the Stars and Stripes; Out rushed the Extras, wild with mammoth

Down went the laborer's hod, the schoolboy's book:

"Hooraw!" he cried; "the rebel army's took!"

Ah! what a time! the folks all mad with joy;
Each fond, pale mother thinking of her boy;
Old gray-haired fathers meeting: "Have you
heard—"

And then a choke, and not another word;
Sisters all smiling; maidens, not less dear;
In trembling poise between a smile and tear;
Poor Bridget thinking how she'd stuff the plums
In that big cake for Johnny when he comes;
Cripples afoot, rheumatics on the jump,
Old girls so loving they could hug the pump,
Guns going bang! from every fort and ship;
They banged so loud at last they wakened Rip.

I spare the picture, how a man appears
Who's been asleep a score or two of years;
You all have seen it to perfection done,
By Joe Van Wink—I mean Rip Jefferson.
Well, so it was; old Rip at last came back,
Claimed his old wife, the present widow Mack;
Had his old sign regilded, and began
To practice physic on the same old plan.

Some weeks went by—it was not long to wait—And "please to call" grew frequent on the slate. He had, in fact, an ancient, mildewed air, A long gray beard, a plenteous lack of hair; The musty look that always recommends Your good old doctor to his ailing friends. Talk of your science! after all is said, There's nothing like a bare and shiny head. Age lends the graces that are sure to please; Folks want their doctors mouldy, like their cheese.

So Rip began to look at people's tongues

And thump their briskets (called it "sound their lungs").

Brushed up his knowledge smartly as he could, Read in old Cullen and in Doctor Good. The town was healthy; for a month or two He gave the sexton little work to do.

About the time when dogday heats begin,
Measles and mumps and mulligrubs set in;
With autumn evenings dysentery came,
And dusky Typhoid lit his smouldering flame;
The blacksmith ailed, the carpenter was down,
And half the children sickened in the town.

The sexton's face grew shorter than before; The sexton's wife a bran new bonnet wore; Things looked quite serious, Death has got a grip On old and young, in spite of Doctor Rip.

And now the Squire was taken with a chill; Wife gave "hot drops;" at night an Indian pill; Next morning, feverish; bedtime, getting worse, Out of his head; began to rave and curse; The Doctor sent for; double quick he came; Ant. Tart. gran. duo, and repeat the same If no et cetera. Third day—nothing new; Percussed his thorax—set him cussing, too; Lung-fever threatening—something of the sort; Out with the lancet; let him blood—a quart; Ten leeches next; then blisters to his side; Ten grains of calomel—just then he died!

The Deacon next required the Doctor's care;
Took cold by sitting in a draught of air;
Pains in the back, but what the matter is
Not quite so clear—wife calls it "rheumatia."
Rubs back with flannel, gives him something
hot:

"Ah!" says the Deacon, "that goes nigh the spot!"

Next day a riger; run, my little man,
And say, "the Deacon sends for Doctor Van."
The Doctor came; percussion, as before,
Thumping and banging till his ribs were sore;
"Right side up the flattest;" then more vigorous raps.

Fever? that's certain; pleurisy, perhaps.
A quart of blood will ease the pain, no doubt.
Ten leeches next will help to suck it out.
Then clap a blister on the painful part;
But first two grains of Astimonium Tart.,
Last, with a dose of cleansing calomel
Unload the portal system—that sounds well!
But when the self-same remedies were tried,
As all the village knew, the Squire had died;
The neighbors hinted: "This will never do;
He's killed the Squire; he'll kill the Descon,

—Now, when a doctor's patients are perplexed,
A consultation comes in order next;
You know what that is? In a certain place
Meet certain doctors to discuss a case

And other matters, such as weather, crops; Potatoes, pumpkins, lager beer, and hops.

For what's the use? there's little to be said,
Nine times in ten your man's as good as dead—
At best a talk (the secret to disclose)
Where three men guess and sometimes one man knows.

The counsel summoned came without delay:
Young Doctor Green and shrewd old Doctor
Gray;

They heard the story: "Bleed!" says Doctor Green.

"That's downright murder! Cut his throat, you mean!

Leeches! the reptiles! Why, for pity's sake,
Not try an adder, or a rattlesnake?
Blisters! why, bless you, they're against the law;
It's rank assault and battery, if they draw!
Tartrate of Antimony! shade of Luke,
Stomachs turn pale at thought of such rebuke!
The portal system! What's the man about?
Unload your nonsense! Calomel's played out!
You've been asleep—you'd better sleep away
Till some one calls you——"

Poor sleepy Rip, M. M. S. S., M. D.,
A puzzled, serious, saddened man was he;
Home from the Deacon's house he plodded slow
And filled one bumper of "Elixir Pro."
"Good by," he faltered, "Mrs. Van, my dear!
I'm going to sleep, but wake me once a year;
I don't like bleaching in the frost and dew,
I'll take the barn, if all the same to you.
Just once a year—remember, no mistake!
Cry 'Rip Van Winkle, time for you to wake!'
Watch for the week in May when laylocks blow,
For then the doctors meet, and I must go."

—Just once a year the doctor's worthy dame Goes to the barn and shouts her husband's name, "Come, Rip Van Winkle!" (giving him a shake) "Rip! Rip Van Winkle! time for you to wake! Laylocks in blossom! 'tis the month of May; The doctors' meeting is this blessed day, And come what will, you know I heard you

You'd never miss it, but be always there!"

And so it is, as every year comes round,
Old Rip Van Winkle here is always found.
You'll quickly know him by his mildewed air,
The hay-seed sprinkled through his scanty
hair,

The lichens growing on his rusty suit—
I've seen a toadstool sprouting on his boot!
Who says I lie? Does any man presume—
Toadstool? No matter, call it a mushroom.
Where is his seat? He moves it every year;
But look, you'll find him; he's always here.
Perhaps you'll track him by a whiff you know;
A certain flavor of "Elixir Pro."

Now, then, I give you—as you seem to think We can drink healths without a drop to drink— Health to the mighty Sleeper—long live he! Our brother Rip, M. M. S. S., M. D.!

TREATMENT OF STAMMERING.—" Editor of Herald of Health; Will you please give me a few words of advice on stammering through your excellent journal and oblige?

н. н. в."

Answer.—We would advise a stammering patient to put himself under the treatment of a good elocutionist. Vocal culture is indicated rather than medical treatment. Vocal gymnastics is not only a valuable means of restoring the lost power of the voice, but it is an excellent means of preventing lung diseases.

The case of Dr. Thomas Smith, of Charleston, S. C., who was deprived of the power of speech about three months ago by a paralytic stroke, is a case in point. With a characteristic energy and determination, he commenced to train his vocal powers as if he were a child learning for the first time to speak, and by dint of persevering effort, he is able to express himself intelligibly in private.

The multitudes of weak voices everywhere heard, show great neglect of the education of the vocal organs. We do not see why it is no t as reprehensible to talk indistinctly feeble, as if there was not strength to force the words out of the mouth, as to use bad grammar, or spell words incorrectly.

ANSWERS TO CORRESPONDENTS.

BY A. L. WOOD, M. D.

Physical Development at Home.

"How can I attain physical development at home and expand my chest, which is weak?"

1. The system must be supplied with plain, nourishing food, from which it can manufacture a plentiful supply of good blood. Fat pork, rich pies and puddings, starchy foods, preparations of fine flour, etc., are not the materials to make blood which will strengthen the muscular system or invigorate the brain. Water should be the only drink. Pure air is indispensable at all times in order to obtain the best results. Refrain from the use of tobacco, and all habits and practices that weaken the system and impair digestion. Keep the skin clean and the bowels regular.

2. Some form or forms of muscular exercise must be taken daily, with regularity, and continued, not for a few days only, but for months. and, if need be, years. Development of the muscular system is a slow process, but a certain one if the right means are rightly used and the person has the vitality to work with. There are many different forms of exercise which are good, in fact, nearly all forms of muscular exertion can be made useful in promoting muscular development if properly done. Exercise out of doors is always best, other things being equal. Exercise should not be taken soon after eating, unless it is very gentle, like slow walking, etc., and it should never be carried to the point of exhaustion, but should stop far short of it. Whatever form of exercise is taken, let the body be kept as erect as possible and the shoulders drawn back so as to allow of the full, free and easy expansion of the lungs. As an exercise for general development, lifting is one of the very best, if rightly done. But it is so liable to be wrongly done, that it is the safest way to substitute some other exercise in its place, unless one can first practice it awhile under competent instruction. The Dio Lewis system of light gymnastics is excellent where it can be practiced in classes to the accompaniment of. music. Rowing in summer and skating in winter are capital exercises—the first for

strengthening the arms, body, and lungs, and the latter for developing the lower extremities, and both for general invigoration. For strengthening the arms, chest, and lungs, the Indian clubs are invaluable. Prof. Welch's book on Physical Culture gives full directions as to their use, as well as other exercises. Full, deep breathing should be practiced regularly several times a day. Bacon's Home Gymnasium is the best piece of apparatus for home use, and any one who wishes to develop his muscular system and strengthen his lungs can not do better than to obtain one and faithfully and regularly exercise upon it.

How to Quit Using Tobacco.—
"How can I abandon the use of tobacco without subjecting myself to excessive prostration, as has been the case heretofore when attempted?"

It is impossible to quit the use of tobacco after it has become a settled habit, without more or less bad feeling and prostration. The man who would free himself from the curse of tobacco-using, must make up his mind that he has a hard struggle to pass through, call all his will-power to his aid, and resolve to quit AT ONCE and for ever. This leaving off by degrees seldom succeeds. It is better to make the battle short, sharp, and decisive. A thorough course of bathing to eliminate the tobacco from the system, will make the struggle much less severe, and prove the greatest aid that can be given. The Turkish baths are best if they can be had. If not accessible, the wet-sheet pack or vapor bath should be taken instead. There will not be much appetite, and but little food should be taken. Fruit is best. No drink but water. and that may be drank as freely as desired. To allay the craving for tobacco hold cold water or pieces of ice in the mouth.

Farina and Constipation.—"As a reader of your journal, I would like to ask if a breakfast at 7½ A.M., of farina boiled in milk, with no tea or coffee, a dinner (no appetite beng experienced in consequence of the satiating

breakfast) composed of a couple of slices of buttered bread, and a hearty supper of vegetables and meat four hours before retiring, would be conducive to health? I see that farina causes constipation, although no doubt healthy as food. In doubt, however, I ask the question."

Any thing which causes constipation is conducive to disease instead of to health. More ills and ailments are the direct results of constipation of the bowels than of any other one cause. Farina and all other starchy foods tend to produce constipation, and should be avoided as regular articles of diet. Eating without an appetite is far from being conducive to health. For breakfast better substitute graham bread, or oatmeal and fruit for the farina and milk, dispense with the second meal, for which no appetite is felt, and eat the last meal two or three hours earlier than at present.

Food for Nervous Dyspeptics.—
"Please prescribe some bills of fare proper for one inclined to nervous dyspepsia, who studies some but has to, and does daily take several hours of active out-door labor?"

Dyspeptics generally should adopt the two meal-a-day system, and eat nothing whatever at any other time. Let the breakfast be composed of oatmeal mush, quite dry, or oatmeal cakes and fruit, or unleavened graham bread or crackers and fruit. But one kind of fruit should be eaten at a meal, and that should be fresh and well ripened. For dinner, some of the articles mentioned for breakfast may be eaten, or some kind of vegetable that best agrees with the patient may be substituted for the fruit; or, if meat is eaten, lean beef or mutton and some vegetable. No other meats allowable, and, as a rule, nervous dyspeptics are better off without any meat. No butter or greasy food of any kind, sugar, salt, spices, or condiments should be used. The patient MUST eat very slow and masticate his food very thoroughly. There is no rule more important than this. He should drink nothing whatever at meals, or for two hours afterward. He should not eat more than two kinds of food at a meal, and should never eat when in the least tired or excited. Cheerful company at meals is very important, and a hearty laugh, either at or after meals, is a great aid to digestion. "Laugh and grow

fat" means to laugh and cease to be a dyspeptic.

Two Meals a Day.—"Do you think it better one should limit himself to two meals a day, irrespective of whether or not he takes much physical exercise?"

I do. Especially do I believe it would be better to take but two meals a day, if he adopts a vegetable diet and lives correctly in other respects. No matter how hard a man may work, two meals, composed of bread made from the entire grain, fruits, and vegetables, are amply sufficient, and I believe he will do more work and do it easier and with less exhaustion to the system, after he gets habituated to it, than he would to eat three meals of the same food, or three meals composed of the ordinary kinds of food, as meats, fine-flour bread, etc. If one eats fat pork, fine-flour bread, butter, sugar, etc., he will need three meals in order to get the nourishment which the vegetarian will get in two. Instead of vegetarians being more poorly nourished than meat-eaters, they are much better nourished, can endure more, go without eating longer and feel hunger less.

Dandruff, its Cause and Remedy.
—" Will you please state in THE HERALD the cause of dandruff on the scalp, and how to prevent it?"

Dandruff may be caused by wearing close and heavy hats or caps, by the application of oils or dres to the hair, by confining the hair too closely to the head, by excessive brainlabor, by uncleanliness, or by all these causes To effect a cure wear the hair combined. short, let the head-covering be as light and well ventilated as possible, avoid all applications of grease or dyes, exercise the brain less and the body more, and wash the head THOR-OUGHLY two or three times a day in cold water, and follow each washing by a vigorous rubbing with the balls of the fingers. The better the general health is and the stronger the digestion, the less tendency there will be to this disease, as well as to all others.

Mysteries of Man.—"I do not see it advertised in your journal. If you have such a book for sale please state the price in the August number.

We have it. Price, \$1 50.

NOTICES OF NEW PUBLICATIONS.

A Physician's Problems.—By Charles Elam, M. D., M. R. C. P. Boston: Fields, Oagood & Co. 1870.

A work "intended as a contribution to the Natural History of these outlying regions of Thought and Action, whose domain is the 'debatable ground' of Brain, Nerve. and Mind," can not but afford matter of intense interest to the philosophic and inquiring mind. A work perspicuously, but so plainly written as to be almost dry, commends itself, nevertheless, to the mind and judgment by its inherent pith and suggestiveness. These Problems are of more than passing interest; they underlie the sources of individual character, and the status and well-being of society at large. The reason why we are what we are, and the world of men what it is in the aggregate, are questions of subtile significancy, requiring close observation, and no small degree of courage to look them squarely in the face. As to "Natural Heritage," herein discussed, we call ourselves the child of this man or that woman, while in all that makes up the essentials of character we belong to an ancestry more or less remote, to a grandparent, a great grandparent, a remote ancestor, and can not be said to represent either of our parents.

For instance, our father and mother may have been ex cellent people, chaste, temperate, and sweet-tempered. while in our unlucky selves may break out the "heritage" of tendency from a libidinous ancestor; the hankerings after alcoholic stimulants from some old fellow who glares from the geneological tree in the shape of a grandfather; or the savage fleroeness of some foregone tyrant in the flesh, who at some time figured in the family history; and we, contrary to reason, conscience, and all the handsome, genial proprieties, are horrifled ourselves, and horrify the household by irregularities; by intemperate cravings for the cup that turneth itself to rubies in the eyes of the fascinated and longing victim of alcoholic inherited tendency; or our exacerbations of temper shock the nerves, and become the terror of all within the sphere of our intercourse; and the question naturally arises, Is il ourselves? We have eaten no sour grapes, and yet our "teeth are set on edge."

Then arises the fearful question of the limits of human responsibility: "Did this man sin, or his parents?" That some are less morally free than others admits not of a doubt, but how far these, that are manifestly in bondage, are responsible for their state, is a question for the legislator no less than for the moralist to consider. The former has, as yet, contented himself with the punishment of crime, rather than in instituting wise investigations into its cause, and the best method of meeting and preventing its commission; while the latter has busied himself too much in the subtleties of the schoolmen to reach any approach to a scientific basis. What we want are facts that may lead to an understanding of these vital questions.

There is one way by which we might reach some degree of certainty, in which women must take the initiative; but which modesty, and the sacredness of the marriage relation will forbid her doing. Every observant and intelligent mother could nearly, if not quite, prophesy the character of her child from data known only to herself; she can predict the harmonies, and the discords of its being—discords which must be propagated, so long as marriage is the arena for so much that is false, discordant, and

most miserable, and while maternity is more an enforced than voluntary relation.

Nothing is so surely propagated, and descends as an hereditary heirloom to the progeny as a tendency to drunkenness. Once the nursing mother went to bed rather more than fuddled upon a huge tumbler of toddy, sweetened and nutmeged, and toasted cracker steeped therein, that she might the better supply that "natural maternal fount" required by the child, who slept softly and soundly, fuddled at second hand; and now we in our day are resping the fruits of these bygone generations, made drunkards by the mother's milk, whose nerves and blood were so possoned that they had no choice but to take the descending scale in the pathway of life; nor is this the worst; this heritage of woe is not confined to the hankering for strong drink, but the blood being made to circulate more strongly at the base of the brain, in the region of the lower appetites and passions, inflames them, and defrauds the higher instincts; brutalises the man, and deprives him of all noble aspirations. We condemn the inebriate, we despise him, we loathe him, and yet is the sin to be laid altogether at his door? Dare the father or the mother, who has even furtively gratified this insane lust, lay the hand upon the heart and say, "I am guiltless of the sins of this degraded and degrading child, whose passions are stronger than his reason or judgment?"

We need to disseminate, and we in THE HERALD OF HEALTH are doing our utmost to spread abroad just and rational opinions upon life and its aim, and responsibilities, hoping that at length we may arrive at some better understanding of its laws. People must learn that to reach the period of maturity does not of itself qualify man or woman for marriage. Mens sana is corpore asse (a sound mind in a sound body) ought to be essential to this holy relation. No one has a right to entail his moral and physical infirmities upon his offspring, doing them irreparable injury, and adding to the aggregate of human suffering.

We need less of sentimentalism upon this subject and more of manly, courageous thought.

It is a curious fact, that as people advance in life they are apt to lose that peculiar individualism of countenance which had been their distinguishing charm, and look like some aunt or uncle, parent or grandparent; and Ralph Waldo Emerson once said, "I am growing eld, for people are pointing out the ancestors I begin to resemble;" showing, it would seem, our true "heritage," and throwing new light upon the saying, "It is a wise child that knows its own father."

There is one consolation in contemplating "Our Materal Heritage." Nature is a stronuous and untiring emservator; she struggles for the best type; she casts off all that is possible, that she may reach the beautiful; evil is limited, and when Nature can do no more, she lets the evil run to its ultimate, and there is found idiocy and sterility, and so the limit is attained. While moral quaities on the side of our best humanity tend to the preservation of what is mentally and physically the ideal type.

"Of Degenerations in Man," our author gives a meisncholy picture, but it must be borne in mind that we receive as "our natural heritage" a tendency only to the bad, not a fixed fact of character, which education, food, civilisation, and, it is to be hoped, a natural consternating tendency will so modify the evil tendency as to produce upon the whole a safe if not high development; still, in spite of all these drawbacks, we find a large number, known as our "dangerous class," from whose ranks are filled our prisons, and who finally end their career by the hands of the executioner. These may or may not be deformed in person, though they generally exhibit disease or infirmity of some one or more of the organs essential to health, which still further adds to the deprevity and weakness of the mental or physical constitution, in the shape of weakness of the moral sense, infirmity of will, preponderance to impulse, and a proclivity to temptation.

It is from such as these that disease finds its victims; our prisons groan under their weight; insane asylums resund with their cries and jibberings; and society is held in perpetual terror of their outrages and misdoings; but this degeneracy, which might seem to threaten the race, has, as we have before said, its limits in a beautiful conservation, by which Nature bars the downward progress by interposing sterility, idiocy, and disease, so that the degenerate family becomes extinct.

Medical man, of all others, best understand the nature and causes of social degeneracy, and our legislators should apply to them for data, whereby to ascertain the evil, its nature, and cause, and learn how to interpose the remedy. Hitherto, the physician has been regarded as only a helper in case of suffering and disease; this is but a limited estimate of the true functions of the enlightened physician, and our legislators are behind the progress of the age in not appealing to their knowledge and judgment for sid in lessening crime, and in interposing methods for its prevention.

Let it be remembered that insanity may arise spontaneously from a line of ancestry never insane in a single instance, but, with a proclivity to the emotional rather than the reasoning powers, and that which had been only a habit in the parent becomes an instinct and impulse in the child; the evil still more augmented by the force of example, by living in the ill atmosphere of discord and violence of temper, without the counteracting influence of moral-educational training, for all ungoverned, irrational impulse will at length get the upper hand and leave the victim rudderless of the constraining will—which is insanity.

Let it be remembered that the habit of using alcoholic drinks, without the supervention of drunkenness in the parent, will in the child create an instinct and appetite, and proclivity to alcoholic stimulants. M. Morel sketches four generations, including father, son, grandson, and great-grandson, in this connection of alcoholic stimulants:

First Generation.—The father was an habitual drunk ard, and was killed in a public broil.

Second Generation.—The son inherited the father's habits, which gave rise to attacks of mania, terminating in paralysis and death.

Third Generation.—The grandson was strictly sober, but was full of hypochondriacal and imaginary fears of persecution, and had homicidal tendencies.

Fourth Generation.—The fourth in descent had very limited intelligence, and had an atlack of madness when sixteen years old, terminating in stupidity, nearly amounting to idiocy. In him, fortunately, the family became extinct.

Is not here subject enough for thought, enough to inspire a new and thorough crusade against "oock tails," and "brandy smashers," "mint juleps," whisky, rum gin, and every species of alcohol? This is without doubt or paradventure, the source of nearly all the crime, the misery, poverty, and wretchedness of these modern days. Crime so gre:tly on the increase must be traced home to

this source almost exclusively, and the anathemas of the temperance preachers are not uncalled for nor out of proportion to the terrible cause.

When we superadd to alcohol the vast amount of opium consumed, and growing every year into more general use, need we wonder at the amount of degeneracy of the civilized man, and the proclivity of so many to crime?

Tobacco is another form of stimulant so world-wide in practice, that we attack the race when we denounce the habit; but, young smokers are always pale, meagre, and insert, however hardened the mature man may become to the practice. In the inception of its use it invariably causes distinces, nausea, cold sweats, come, sometimes delirium. These things can not fall harmlessly upon the system; but, in the effort of Nature to adapt herself to the poison, much that is of the healthful in meral tendency must become obscure, if not obliterated in the process.

Nations, like individuals, have their periods of insanity, excitement, delusion, and recklessness, and thus we have "moral and oriminal epidemics," in which the individual is but one of the many irresistably impelled to some delusion, some method of crime, or some abnormal state, produced by hereditary taint in the masses, by imitation, by the reflex of some former habitude of mind, at first limited to one or more, but by dissemination made to germinate and yield fruit in the masses. The judicial bench have done much to spread these contagions, but in modern times the press is a vast Juggernaut, spreading contagion, intensifying its victims, and leading them to delusion, madness, crime, and death. The publication of the details of crime even in our day, leads by imitation to a repetition of its horrors, even in far separated communities; thus the horrible atrocities of the Troupman murders were no sooner made familiar through the press to the public mind, than they were succeeded by the murder of the Marshall family in England, and that of a whole household in Philadelphia.

In like manner, we need look no farther than our own times to see how the mania for burglary propagates itself; the mania for homicide in all its aspects by brute force, no less than by poisoning; the mania for suicide in all its most revolting forms. The abuse of the liberty of the press, so much vaunted, never over-estimated in its moral good, thus leagued, as it were, with crime, becomes a whip, scourging the ill-conditioned masses; the weak in moral force, the imitative, the emotional, and ignorant, onward through a perfect carnival of crime. It is time that a powerful public sentiment should frown down the publication of the details of human outrage; the reports of corrupting divorce cases in our courts of law, and the modus operand of murder, suicide, etc.

It would exceed our limits to even name the delusions which have misled the human mind in the masses, driving whole communities to acts which the better judgment of subsequent ages have hardly been able to rectify. Yet in all this we can trace the hand of an all-beneficent Providence, putting limits to the ovil, and even evolving good from its existence, and thus through error, failure, and defeat, has man been able to place his foot upon the vantage ground of Truth.

We live in a most remarkable age, is a trite thing to say, but man as man is more remarkable, in this our age of telegrams and railways, than in any preceding. His bone and muscle are better, and while sufficiently active in the great movements of the time, it is not brute force that rules—active as it is, eropping out in the shape of pedestrianism, cricket, sparring, beating, pugilism, all going to show that we believe in a fine physique, as implicitly as did the athletes at the Olympic games, still it

is nerve, not muscle, that rules. There is a preponderance of nerve or brain-force in our day, with an insufficient field for its use, and we look confidently to some new development in thought, action, and aim, if not in clear spiritual revelation.

There is much talk about the injury inflicted upon the brain of children by too much application to study, but very much of this is chimerical. The hope is that every child will become a rational, intellectual man, and therefore it is essential that he should be early placed under training suitable to his age and capacity; above all things is it essential that his moral training be coeval with the earliest awakening of his faculties. The brain of a child is never idle, and, if good seed be not planted therein, evil will assuredly fix a lodgment; still the tissues are soft and yielding, and tenderness as well as good judgment is required. As the student advances, more labor may be put upon it; for the brain acquires strength by exercise, just as the muscle becomes firm and fit for use by being exercised. We are much tougher than we imagine, and have only to contrast ourselves with the old, intellectual gymnasts, to see how much we fall below them. Montaigne, Pascal, and others, did the world good service in spite of their precocity, while Chrichton died at thirty-two, a miracle of accomplishments and learning. After all, it is not the number of years that make a man old or otherwise, but the capacity for work and rational enjoyment which may exist onward to a century, and still leave the man young, and the soul in full activity when the body has become too much worn to aid its active companion.

"My friends," said Auquetil, when dying at the age of sixty-six, "you behold a man dying, full of life."

Of one thing there is little doubt, that the health and comeliness of the body are materially aided by a judicious use of the intellect; the face most especially retains its dignity and beauty of expression late in life with the intellectual, while the owner of a useless brain becomes a mere cled in look, and prematurely falls into dotage.

A good diet, pure air, exercise at proper intervals, morning study, and temperance in all things, will guarantee usefulness and long life, if there be no heredize taint to crop out like a rock strats upon s good soil, and mar all our culture and disappoint our best endeavor.

It is refreshing in this age to find a writer capable of doing justice to the sublime purity, singleness, and originality of the great philosopher Socrates, and commenting with force and penetration upon what is vulgarly called his "Demon," that impersonation of a delicate conscience whose manifestations became to him an audible voice, which he never disregarded. Pascal, also, the abstrume thinker and conscientions follower of a divine intuition, comes in for a meed of just panegyrie.

We close with a passage in the author's happiest sivie:

"Fellow laborer! fear not to do manfully the work for which your gifts qualify you; but do it as one who must give an account both of soul and body. Work, and work hard while it is day; but the night cometh soon enoughdo not hurry it. Use your faculties, use them to the utmost, but do not abuse them-make not the secretal to de the work of the immortal. The body has its claims, it is a good servant; treat it well, and it will do your work; it knows its own business, do not attempt to teach it or to force it; attend to its wants and requirements, listen kindly and patiently to its hints, occasionally forestall its necessities by a little indulgence, and your consideration will be repaid with interest. But task it, and pine it, and suffocate it, make it a slave instead of a servant ; it may not complain much, but, like the weary camel in the desert, it will lie down to die!"

THE PUBLISHERS' DEPARTMENT.

Contributors to this Number.

MRS. RLIZABETH OAKES SMITH,
REV. CHARLES H. BRIGHAM,
ARCHIBALD MACLAREN, of Oxford, Eng.,
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HENRY WARD BRECHER,
E. P. EVANS,
F. B. PERKINS,
MRS. H. C. BIRDSALL,
PROF. HUXLEY,
DE. A. L. WOOD, and
THE RDITOR.

Notices of the Press.—We call special attention to the notices of Mrs. Gleason's book which we have received from persons who have read it, and from the newspaper and magazine press. It is rarely that a work of this character has been so well received.

Dr. Susan Everett has closed her season of lectures for the present, and will recreate until September, when she will open her fall campaign in New York and Massachuvetts. She may be addressed during the summer at Aurora, Ill., Drawer 142.

Bacon's Family Guide to the HOLE BIBLE.—New York: John Beardshaw, 15 Laight Street.

This chart is unique in its design, and for the purpose for which it is consrived, we should think it would prove useful. The map gives the location of all the places mestioned in the Bible, the journeyings of the Israelites, the travels of St. Paul, and much other matter of interest which can not be explained in a brief paragraph. It is sold by agents. Price, \$1 50.

A Good Sewing Machine is given free for a club of 35 subscribers and \$70. This premium is very popular. If there is a poor, deserving family in your neighborhood help it to get a good sewing machine by subscribing at once. Perhaps your minister's wife wants one. If so, help her to get it, by helping her to get up a club. The Empire is one of the best sewing machines in use, and we are sure that it will give you good satisfaction.

Our Premiums.—We shall be careful to send out as Premiums nothing which is not all that we claim for it in value. No cheap, second-hand, or indifferent article will be used.

Facts for the Ladies.—I purchased a Wheeler & Wilson Sewing Machine about ten years ago, and while learning to use it without instruction, broke one needle; after that for more than nine years, I had the machine in almost daily use, doing all my family sewing and very much for friends and others, and instructed seven persons in the use of the machine, without breaking a needle. My machine has never cost one penny for repairs. I have sewed hours with a worrisome babe in my lap, working upon fabric of the most delicate texture, as well as upon men's and boys' clothes of the heaviest material. I have made garments for the cradle, the bridal, the hospital, and the funeral. Entering into every vicissitude in life, my machine has become, as it MRS. M. L. PECK. were, a part of my being. MEXICO, N. Y.

The Address Label.—By this method our subscribers can keep their own accounts as to when their terms of subscription close; for instance, if the printed slip has "De70," or "Je71" added to the name, it signifies that the subscriber's term of subscription expires with the December number of 1870, or the June number of 1871, and so on et seg.

Talks to My Patients.—Mrs. Gleason's book, advertised and noticed elsewhere, is meeting with a good cale. We can supply it to subscribers and agents in any quantity. A good many ladies are selling it with success. We should like to have in every town a good Lady Agent. For particulars of agency, write to the Publishers.

Books C. O. D.—Parties who order books will find it cheaper to send the money with the order, than to order C. O. D., as in this case the cost of collection will be added to the bill. This is considerable when the money has to be returned from a distant point. Those who order C. O. D., should send one-fourth the value of the order in advance to insure prompt attention.

Home Treatment.—Invalids wishing prescriptions for home treatment can have them for Five Dollars. They should send full particulars of their cases. Any person sending five new subscribers to THE HERALD OF HEALTH and Ten Dollars, will, if he does not choose other premiums, be entitled to a prescription for treatment free.

Caution.—Our friends in writing to us will please be very particular and give Postoffice, County and State with every letter, and not depend on us to remember where they live, though they may have told us a hundred times. Those who think we can turn to our books and find their names and address without trouble, are quite mistaken.

Wanted.—Will our readers please send us brief items of news and experience referring to Health and Physical Culture topics. Make them pointed and practical, and we will publish them for the benefit of others. Do not mix them up with business or personal matters, but on separate sheets of paper and in readiness for the Printer.

Clubs of Twenty-five.—Any person who will send us at one time twenty-five new subscribers to this monthly, shall have them for Twenty-five Dollars. Bemember they must be new subscribers, and all be sent at one time.

Notice to Our Correspondents.— The following hints to correspondents should be observed in writing to us:

- ALWAYS attach name, Post Office, County, and State to your letter.
- SEED MONEY by Check on New York, or by Postoffice Money Order. If this is impossible, inclose Bills and register Letter.
- CANADA AND NEW YORK CITY SUBSCRIBERS should send 12 cents extra, with which to prepay postage on subscriptions to THE HERALD OF HEALTH.
- REMEMBER, if you are entitled to a Premium, to order it when you send the Club, and inform us how it is to be sent.
- REMEMBER THAT WE NOW GIVE the Empire Sewing Machine as a premium. It is guaranteed to give good satisfaction.
- 6. REMEMBER TO SEND in Clubs early.
- REMEMBER TO LOOK at our Premium List and Book List, and see exactly what we give and have for sole.
- REMEMBER that for the names and addresses of 25
 persons, either invalids or friends of Temperance and
 Health Reform, we give Prof. Wilson's book on the
 Turkish Bath. It contains 72 pages.
- STAMPS should be sent to prepay postage on letters that require an answer.
- Those who want a good Spirometer, Parlor Gymnasium, or Füter for making their water clean, will find the prices in another column.
- Invalue from all parts of the country are invited to write to us for our circular, and full particulars as to Treatment or Board in the Hygienic Institution, See advertisement elsewhere.
- 12. See List of Books elsewhere.

Job Printing.—We are prepared to execute in neat, substantial styles, various kinds of Job Painting: such as Pamphlets, Circulars, Envelopes, Billheads, Letter-heads, Cards, Labels, Small Handbills, etc., at the same rates as in all first-class New York printing establishments. Stereotype work done to order.

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WHAT THE DOCTORS, THE PEOPLE, AND PRESS SAY

ABOUT MRS. DR. GLEASON'S

TALKS TO MY PATIENTS.

From P. H. HAYES, M. D., of Walkins, Mass.

I have just laid down Mrs. Dr. Gleason's new work, and I am impatient to take up my pen in praise of it. The book is true to its title, and full of strong points and good counsels. But its chiefest charm for me is that the writer so well understands the so from ent connection of a troubled spirit with broken health, and that from the fountain of her own warm Christian heart, and from her experience as physician, wife, and mother, she knows so well how to

"Minister to a mind diseased,
Pluck from the memory a rooted sorrow, and
Cleatise the stuffed bosom of that perilous stuff
Which weighs upon the heart."

From Mrs. Sarah R. A. Dolley, M. D., Rochester, N. Y.

The title, "Talks to My Patients," might indicate to some that the interest of this pleasant and instructive volume was confined to the patients of its author; but which the needs of these may have suggested the "Talks" which come to make the book, no physician will read it without thinking of scores who would be benefited by its perusal; and no mother will read it who will not thereafter be better prepared to lovingly and understandingly guard and earse for the physical and moral well-being of her children. I have set it stroulating among my patients.

From Mrs. Dr. Winslow, Washington, D. C.

Never was a book more truly named. In reading it, I see the author before me and hear her voice. It does me good, and it will do every one good for whom it was written. What a happy thought it was for the author to diffuse herself in such a quiet, modest way over the hearts and lives of those she had previously blessed!

From Mrs. Dr. Sales, Elmira, N. F.

I am glad Mrs. Gleason has written "Talks to My Patients." It is a worthy offspring, and will go forth and a blessed work where her voice can never be heard. I would rather have written that book than been queen of the greatest empire on this small globe of ours!

From Rev. JOSEPH SHITH, Grand Rapids, Mich.

It is a book admirable for its brevity and sense. It is the best on such subjects that has ever met my eye. I believe it will do very much good. We are glad to see the author's hand and soul on every page, and to feel that she has written, in Christian love, on a theme which is really secred, but is made so much a medium of quackery.

From Mrs. STARLEY, of the Female College, Elmira, N.Y.

I believe it to be the book above all others to put into the hands of young mothers and maidens, to help and to guide them in regard to those topics and functions peculiar to woman. I hope and believe the book may find a large sale, tor it is worthy of an extensive circulation, and I shall hope to bear a small part from year to year in recommending it to my friends.

It is a compend of motherly and womanly hints, which should be accessible to all of the female sex, whether maidens or matrens.—Boston Cultivator.

A book that contains much new and valuable information; no nonseuse in it.—San Francisco Alla California.

A book we can safely recommend.—Arthur's Magasine.

From Elisabeth Oakes Suith, the well-known Authores

I would gladly see this work in the hands of every young mother in the land; it would serve to give her confidence in herself and in the divine provisions of Nature. She would be saved from that weak and senseless fear which embitters the life of the young wife and mother, and leads her to adopt courses destructive to her peace of mind and detrimental to her health.

The full, gracious womanhood of the author is apparent throughout, not unmixed with a cheerful humor quite refreshing upon such subjects. She is evidently familiar with the pen, and uses it with eas:. She is sufficiently scientific, but not technically so, and her book may be cited as proof that women never undertake any thing they are unable to accomplish. I am proud to say that such women honor the profession; they are fast driving from its ranks those unprincipled charlatans who exter to the weakness and wickedness of woman, and render marriage a barren and dishonored relation.

From The Evening Mail, New York City.

We know of no book which, in its way, deserves heartier commen lation. This is said to be the first medical
work issued in America from the pen of a woman; may
all that follow be as good! Modest in its assumptions, it
does not pretend that physicians are unnecessary, but it
teaches what are the causes of many diseases, and how
they and the physicians may be avoided. It so avoids
the two extremes of mock delicacy and pandersome detail
with such good sense, that we could wish it put into the
hands of every American girl and woman.

From The Liberal Christian, New York City.

After reading the whole of this book, we pronounce it the most admirable and excellent that we have ever seen of its class. It is written for women. The style is pleasant and readable, and it is full of wise counsels and suggestions regarding the very things in which so many people most need assistance. It is a safe book for young people to read, for any body, indeed, and thus can be said of very few books dovoted to such subjects. There is not a sentence in it that can be perverted, or misused, so as to do any harm. We wish the book could be read in every household in our country.

From Harper's Magasine, New York City.

Mrs. Gleason is able to say something to wives and to mothers which no man could say. There can be no difference of opinion about the value of the practical suggestions she affords, which are characterised by sound philosophy and clear, good, sterling common sense. We wish the chapter, "Confidential to Mothers," might be published as a tract and sent to every mother in the land.

This book is like the familiar conversation of some wise, experienced friend, who has gathered young girls, young wives, and young mothers to her side, and is telling them all about the grave mystery of their organization and how to care for themselves.—Elseva Advertiser.

This book treats in a thorough yet delicate manner of all the troubles, cares, and diseases of women. We do not hesitate to say it is the best book of its class we have yet seen—Gody's Lady's Book.

THE HERALD OF HEALTH

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THE TWO WIVES.

BY MRS. ELIZABETH OAKES SMITH.

CHAPTER XXV.

THE PROFESSOR GROWS TROUBLED.

THE Professor thus writes in his journal:

"Verily, my life is full of blessedness.

These academic groves, these scholarly pursuits, are so entirely accordant with my taste and feelings that I desire nothing else. I correspond with the learned of similar institutions, and I see the minds of my pupils develop under my teachings with a sense of being useful and dignified in my vocation.

"I miss the beautiful, spiritual face of Edward Osmond in my class, for there was something there that became to me prophetic of the race. Sister Electa speaks of him as belonging to the angels—in the best import, noble as a man, beautiful as a woman. Somehow, when I recall his face, his voice, it blends with a sweet vision of a clear spring of water beneath an oasis of palm trees, and he sits there, his head resting upon a lion, and his arm encircling a lamb, while he reads a scroll in the bright sunlight.

"Electa breathes into our household the very spirit of divine peace; even Mrs. Pyncham is tranquilized and rendered rational under her influence, while Cora is beyond expression lovely. Every little jarring chord, that once threatened to mar the harmony of her being, has become musical with joy and happiness.

"I observe Electa has devoted herself much to the interests of the Stearns family, which seems strange to me, for the woman Janet is a sad vixen and a loud-talking ignoramus, with no consciousness of her short-comings. Paul, on the contrary, is a good youth in his way.

"Last night, thinking to surprise Cora with a new and diminutive watch I had bought for her, I opened one of her bureau drawers to lay it therein. Ah me! what a lovely, fairy sight met my eyes! all so snowy white, so airy, so fresh, so diminutive! Cautiously I raised a little shirt thin as gossamer to my lips, and kissed it over and over again, and gave expression to my deep joy and reverence in words of prayer. Then Cora approached on tiptoe, and, blushing, put her arms about my neck, and

even kissed my tearful eyes; but she whispered playfully,

"'Naughty boys mustn't peep!' and then she burst into tears, and laid her dear head in my bosom.

"I had not for some time had any recurrence of my dreams, and I could see that Cora was very glad, and even hinted that she hoped I would never have a recurrence of them. I own I did not sympathize with this desire, for I was conscious of a new life and spirit and health through this source, as though I had quaffed of the primitive spring of life and being.

"Several weeks have transpired since I last wrote, and I have much to record. There had been much of stir and bustle in the house, and my library was quite deserted. I sat listlessly holding some fine mineralogic specimens in my hands, beautifully polished agates and crystals of the quartz, and a piece of amber inclosing a fly, and I must add that the touch of amber is to me a gentle exhilarant, when I passed into my dream existence.

""George,' said my old friend, the hunter, 'I do not quite understand you. I believe you fall asleep now and then. You do not seem to sleep; but I tell you, old fellow, you sit bolt upright, and talk in a most astonishing manner; to speak plainly, you are muddling about, talking of triremes—that seems to be the word—and you swore by the eternal Styx, and how any sort of sticks should be eternal I do not know; and then you bade me watch when the moon was full, and having offered a white kid to Trivia, and laid a coin under her right foot, I might depart to whence I came.'

"'Are you sure that it was I, the real, identical George, who talked in this fashion, Rodman?"

"'Why, man alive! who else should it be? To own up, old fellow, you do look uncommonly handsome, and you spout away in a manner to shame the stump-speakers. Then again you have a style of looking deucedly foolish, and smiling, and just now you whispered, in a way to kill,

"Blest as the immortal gods is he, The favored youth that sits by thee;"

and you laid your hand on your heart, and all that sort of thing. It's mighty queer!'

"'Rodman, I swear to you that I have not been asleep. I think it is you who are getting luny. Fill your pipe, old boy, for I shall not believe all is right with you until I see the light smoke exhaling in this delicions air.'

"Rodman rammed the tobacco into his meer-

shaum so violently that the wonder was he did not split the bowl, and then, eyeing me askance, he reached over to me, where I sat on the grass, with a scarlet cactus in my fingers, and give me such a hard, sudden grip with thumb and finger that I involuntary started with the pain. He gave himself an even more formidable pinch, and then settling himself to his pipe, he exclaimed,

"'All right, old boy; go on!"

DREAM RESUMED.

"At length I began to weary of my life in the gloom of the ancient temple, and we made our preparations to depart. We feared the dwarf might oppose this movement, or refuse to go with us, but, on the contrary, she seemed overjoyed at the plan, and lent herself to amassing the gold and gems which should serve to preserve us from want.

"'O my Narita! shall you not pine for your kindred, and long to return? asked Zalinka.

"'Why should I? Soon the last of my race will sleep the long sleep in the shadow of the silent temple, and why then should Narita be there?'

"'True, most true; better to lie where the blossom will cluster, and the bird sing, my devoted child!"

"Narita shook her masses of hair over her wee face and covered it also with her hands, but she said no more. At length she announced that all was in readinees. We ascended to the area above, and took our last look at the glorious city lying beneath. The sun had gone down to his amber couch, and the full moon shown respiendent upon the vast teocalla and the nearly deserted streets. In the distance arose the piles of smoke convolved and dense from the mountain which never slumbered, while groves of palms and mahogany lifted their motioniess heads solemnly in the night air, and the river flowed and sparkled onward like molton silver in the moonlight.

"All was so flooded in the clear white rare, that the birds, doubtful of the hour, flitted from branch to branch at intervals, and the clear notes of the Campanero sounded like the joyous tone of a marriage-bell. More than once its white feathers almost touched our heads, as we sat in our verdant bower, where probably it had a nest near by. We sat long, indulging in that silence which is much more eloquent than words, when again the Campanero rang her pretty chimes close to our ears. I took the hand of Zalinka, and there, under the holy stars, in the solitude of that ancient fane, besought her

to be my wife, and as she answered only with her lustrous eyes, the bell-bird chimed our only note of joy.

"'It was a nice, purty place to make love to a woman in,' interrupted Rodman. 'I suppose when a fellow is so full of happiness as you must a been every thing takes on a festive look, otherwise, I was going to remark that the bell-bird always has a melancholy sound, to my mind. Go on.'

"We left the pigmy inhabitants of the temple sleeping soundly, and, conducted by Narita, we again penetrated the cavernous labyrinths of the subterranean way, and after hours, and what seemed days to me, emerged upon the banks of the river. Seizing a narrow batteau, which had been hauled up under a clump of agoves, we floated down the stream. It mattered not to us whither we went, for to the eyes of lovers all places are alike beautiful.

"At length we heard the roar of a cataract, and the contour of the hilly country which we now approached, gave indications of a deep and dangerous descent. Leaving the canoe to its fate, we ascended an eminence, whence could be seen the bosom of a lovely lake, over which skimmed and wheeled in careless gambols innumerable aquatic birds, and in the distance arose the towers and pyramids of a vast city.

"Light as an antelope of the hills, the happy Zalinka moved at my side, unconscious of fatigue, never weary with the beauty of all she beheld, and giving expression to her content by chanting in her soft voice the simple and often impassioned songs of her people.

"The sun was rising when we entered the city, which in the distance had seemed so inviting. Gradually the orb of light shone along the streets, lighting up the spires of grass amid its paving-stones, creeping from terrace to terrace of its temples and palaces, burnishing the architrave, and throwing into bold relief the huge stony giants looking down from portice and wall, but, save the bird flitting through the silent trees, or the emerald lizard gliding along the pathway, there was no sign of life.

"As yet there was no decay. The pure, transparent atmosphere had left the noblest fane and the humblest dwelling alike, in all the freshness and beauty of their original creation. Upon the walls the gorgeous coloring of purple and gold and vermilion were revived, as when the tints first grew under the hands of the master. The ashes were still upon the hearth-stone; the golden fillet of the priest, the obsidian implements of sacrifice lay upon the altar, as if the

steps of the hierarchy had hardly ceased their echo along the corridor.

"What calamity had fallen upon the deserted city, to leave it thus desolate in the very strength and prime of its creation? There were the myriads of people who had made its thoroughfares resonant with echoing feet, and the hum of busy life. Vainly we walked its silent ways and penetrated vestibule and hall, and the sacred precincts of cloistered grove and holy crypt. The silence of death without its decay hung over all, impressing us with sentiments of profound awe. Years, it may have been, had passed since the inhabitants had ceased from the great city, for now and then a shrub might be seen bursting from some vividly-colored cornice, or a vine stealing softly up the limbs of some grand old idol that looked helplessly downward upon the intruder.

"Who were the people? Whence came they? Were they cotemporary with Melchizedek? Might the ages then have resounded wih the peans of Job, or the trimbrel of Miriam? Were the ballads out of which some Homer garnered his inspiration once sung along these solitary streets? Were frail Helens here, and Iphigenias with beseeching eyes, and Sapphos maddening the heart with song and beauty? Silence broods like a pall, cold, impenetrable. The gods have fled the deserted fane, the Hestia have gone from the dead ashes of forgotten homes, and the chill but not the ghastliness of the sepulchre usurps the atmosphere of a city, which is left without a name or remembrance.

"I had felt an unaccountable sensation of dread, a sense as of invisible surroundings—the awe as if hidden, unseen, mysterious influences were working a spell upon the senses, when suddenly Zalinka clung to me with terror, and hid her face in my bosom. Narita also tore the silver bodkin from her masses of hair, as was her custom when excited, and buried her little face in a corner of her mistress' robe.

"'Let us go hence,' cried Zalinka. 'Hasten away, my Teomax; the city is forsaken of the gods. The people were abhorrent, and the great powers above rained desolation and terror upon them, and they perished, one and all. Look, Teomax, at yonder sacred temple! it is cleft from crown to base with the lightnings of Heaven. Thus does the great one God speak when the priest pollutes his altar.'

"Gathering her to my side, we rushed from the city as if Pan and all the forces of earth which he commands were leagued for our destruction. The banks of the river were so densely bordered with vines and cacti, that we could scarcely make our way, and more than once the tiny form of the dwarf was suspended in mid air, as, attempting to leap some yawning crevasse, she was caught by her long hair. At these times she tore it away with her hands, and screamed more with rage than pain, yet no solicitations would prevail to induce her to have it braided and fastened to her small head.

"After hours of wearisome effort, we at length descended to the foot of the falls, and there, to our great delight, we found the light cance which we had abandoned above had passed the cataract uninjured, and was safely moored in an angle of the stream, whither the foaming eddy had lodged it. We now seated ourselves in this, and submitting ourselves to the guidance of the flood, floated onward.

"'I hope you had a good rifle, for it is not uncommon to find a jaguar, or boa-constrictor, or some other varmint, snug on the branch of some tree, ready to drop down and make a dinner upon the carcass of a traveler.'

"'No, I had no arms, nor were we molested. Indeed, Zalinka assured me that all rude creatures were disarmed by the symbol upon her shoulder. Once, the loud crackling and crashing of the trees that overhung our path admonished us of the approach of some wild beast, and soon the heavy vines laden with their weight of bloom and perfume were thrust aside, and the glittering eyes of an enormous snake appeared from the shore, but Zalinka waved her hand and he laid his head upon the earth in mute submission.

"'It's a pity you couldn't have put a ball through his head, when he lay there convenient, for the next traveler wasn't likely to fare as well as you did. For my part, I always feel as if I was killing "Old Nick," when I kill a sarpent. Go on.'

"Zalinka all through this journey was gay as a bird, tender and maidenly as primal woman is. Nothing could equal her rosy blush, her musical laugh startled the denizens of the wood to their wildest merriment, and timid creatures through our path, were lured by the sweetness of her presence.

"Ah me!' interrupted Rodman, 'many a poor dog cursed with a termigant wife weuld envy you such a woman. I knew one such, wiser and better than the man whe loved the earth she trod upon, and he grew jealous only of the angels—and they took her, they took her! Go on.'

"But I could not go on, for Cora's head lay upon my bosom, and she whispered,

"'George, do you know that when you dream

you are like the strings of a wind-harp. I hear a faint breath of music; it is here, it is gone. I listen, and am tantalized with a note; I see tints of purple light around your temples, and, O George! you are not George at all, but so bright, so joyous-looking! I am sure Zalinka is a great deal more to you than poor little Cora! and the tears were in her eyes.

"'My sweet child, if Zalinka comes to me in dreams, is it a fault of mine? If there are depths in the human soul undiscovered by and unknown to common experience, shall we contemn them, and shrink from them in terror? Rather should we not accept them with profound awe, accept them reverently as possibilities of existence, as a gleam of wider, grander probabilities; as a revelation of the deeper mysteries of being, which, when better known, will open to us the gates of eternal realities, and show to us how much more there is hidden in our creation than we have yet learned?"

"Oh George! I do not understand you, but it all sounds as beautiful as the talk of Edward Olmstead!"

"'And yet you are jealous of my dream-wife, Cora!'

"'Is she your wife in your dream, George?' asked Cora, with a startled look.

"'Yes, my own true, loving wife; she has become such in my dream."

"Cora walked away, and leaned her pretty head upon her hand, gazing wistfully from the lattice, and then she came to me; she put her two hands upon each side of my head and read my eyes in a new way, and said slowly.

"'George, perhaps this dream-wife is an archetype of the second wife—;' her lips trembled.

"'Do not break my heart, darling,' I cried, clasping her in my arms.

"'There, dear George! if you are content I am. Somehow, I am weak and foolish, but I could die to make you happy!"

"'And I could die for thee, my beloved, but we will not die, we will live to make each other happy.'"

CHAPTER XXVI.

A FRESHET ON THE ANDROSCOGGIN.

IT was one of those warm days of the early spring which sometimes visit this northern region, always the precursor of the breaking up of the ice in the upper streams, followed by freshets more or less severe in proportion to the accumulation of snow in the mountainous re-

gions. Paul had just come home from a short voyage down the coast, preparatory to those longer adventures upon the sea, for which he so ardently longed. Sister Electa had not only favored his desire for a life upon the ocean, but had herself directed his nautical studies, and had even furnished his "sea chest" with all the comforts and conveniences pertaining to the sailor.

Paul rarely now saw Patience, whose coquetries he by no means approved, though it was evident that she filled a very large place in his thoughts if not in his heart.

"I can not spend all my time backing and filling for a woman; if she is ever tired of fooling, I will speak to her; if not, not."

His mother had set her eye on the thrifty girl, and was determined, if possible, to secure her for Paul. Accordingly she, between sunset and dark, put a decent black shawl over her head and made her way to Deacon Grant's. Avoiding the front of the house, she made her way through the rear door directly to the clean, wholesome kitchen, where she knew Patience was most likely to be found. Here indeed she was, looking as rosy as the apples which she was paring to make into pies. She colored crimson at the sight of Janet, and motioned her to a chair. After a brief silence, followed by a discussion of the weather, which was compared with that of several previous winters, and the present pronounced as comparatively mild and pleasant, Mrs. Stearns ventured upon the observation.

"Paul got home from Boston, day before yesterday."

Patience colored to the eyes, and said, "Did he? I suppose you were right glad!"

"Well, aren't you glad too, Patience? I've seen the time yo'd eenymost break your neck running after Paul!"

"That was when I was young and foolish, Mrs. Stearns."

"Drat the gal! You put on mighty smart airs. I hope you don't consider yourself any botter than my Paul?"

Patience finished the apple she was paring, struck the knife into another, cut off the blossom end with a sharp cut, and proceeded to turn it round, each time showing the white fruit and a long thread of skin which curled and lengthened under the knife till she reached the stem, when she severed a round patch and dropped the apple into the tray with others before subjected to a like process. All this time she did not speak.

At length the irritable Janet ejaculated,

"So you think yourself too good for Paul, do you?"

"I do not feel bound to say what I think," returned the girl.

"Hoity, toity! what are the gals coming to! Time was when a likely young man could take his pick out of the best."

"He can now, leaving me out of the count. I'm in no hurry to be married."

"No more ain't Paul. He can wait as long as you can."

"I hope he doesn't wait for me!" answered Patience, with a suppressed smile and a vivid

Janet saw that her tactics were at fault, and she changed her tone, and said in a wheedling voice.

"Nobody could help loving Paul, Patience. Even the bigbugs of the college make of him; and Miss Electa treats him more like a brother than a stranger; and it ain't the thing for him to be put upon by a—a—a good-for-nothing hussy like you!" She could not help winding up her sentence in her usual manner.

"Oh, never you worry about me, ma'am. I am not the one to harm a hair of his head," and Patience carried a long, unbroken apple-paring, the two ends terminating in a round piece from the two poles of the fruit, three times round her head and cast it over her shoulders, when it fell upon the floor in a coil that certainly looked like a P, whereat Janet rubbed her dry hands together and exclaimed,

"It's a P, Patience, plain as day!"

"It's more like an S, to my eyes," answered Patience, and then, seeing the inference to be drawn from her inadvertence, she added, "they always make the letter S!"

"Well, now, whether it is P or S, it is all the same—Paul Stearns! I wish, Patience, you wouldn't be so offish with Paul; men need encouragement; they're pesky shy, and kind o' ought to be led on. Half the time they don't know what's good for 'em. Women ought to fall into their ways, and take 'em like; it's better for both on 'em."

Patience struck her knife into a fresh apple with a vim, and bridled her curly head with scorn, as she replied,

"Paul may wait till the longest day he lives before he finds me making up to him. When I want him I'll call for him, ma'am, and you may tell him so."

Janet rose to her feet, and her hands tingled to give the girl a box on her ear, but that not daring to do, she contented herself with exclaiming, "You good-for-nothing, self-conceited jade! You're not worthy that my son should wipe his feet on you. You think you're a beauty, and may turn up your nose at the men, but mark my words for it, you'll go through the woods and pick up a broken stick at the last," and she went out, slamming the door behind her, muttering, "I'd like to a said, jist as I did! I'm glad I didn't say so, for John was a good creetur, a good creetur!"

No sooner had Janet left the house than Mrs. Grant, who had seen her enter by the back door, and who had her own reasons for wishing to know the purport of the visit, and had therefore endangered an attack of the earache (which is a prevalent disease to those exposed to the draft of a key-hole) by placing herself in close connection therewith, opened the door, and looking about as if in quest of somebody, exclaimed,

"I'm sure I thought I saw the Widow Stearns coming in! Where is she? and what is wanting, Patience?"

Now the girl perfectly understood the habits of the Deaconess, and more than that, she had so sat that she could plainly see the eclipse of the key-hole, and she replied, demurely, "Doors have ears, ma'am. I suppose they've told you all," and she proceeded to "core" the apples with quiet impudence. Mrs. Grant was too wise to contend, and she contented herself with examining the tray of fruit, and picked out here and there one with a worm-hole, cautioning Patience to greater care, and then replied, casually, "That young man, Paul, is a pompous bag of wind, that'll not be likely to come to any good. I advise you to keep out of his way, Patience, if you know when you are well off."

Patience's eyes flashed, and she answered, warmly, "If the truth is to be told, Paul Stearns is a right down honest-minded, warm-hearted fellow, and I'll hear no one abuse him. I don't know why every body talks to me about him, but they shall hear the truth when they do it," and she tock up the tray of apples and proceeded to chop them with great vigor.

As the day was warm and the sunshine clear from cloud, Patience, who, although she parried all feminine attacks with a proud spirit, was ill at ease in her mind, no sooner finished her baking and ranged the pies to cool, than she ventured forth down the river bank to enjoy the softened sky and air, no less than to have, as she said mentally, "a good cry, where nobody would be the wiser for it."

Descending the bank, there was a small cove formed by a point of rocks jutting to the south of it into the stream, and here the ice, descend-

ing from above, and forced irresistibly against the rock, had worn by the aid also of impending currents a hollow recess or grotto, where in her childhood she had often stole away to enjoy for a brief space the sympathy and kindness of her young admirer, Paul.

Taking her hood from her head, and gathering her arms in her plaid shawl, she sat long, gazing wistfully out upon the river, the ice of which was growing dark and sodden under the warm atmosphere. The wind was southerly, fresh and strong, but she was sheltered from its force by the overhanging rocks, save that now and then a gust caused her curls to glitter in the light, as if some invisible hand had parted the threads to show their golden beauty.

Patience knew she was capricious and self-willed, but she scorned to be one of those who feel themselves honored by the preference of the other sex. Indeed, she strove to give a reason where no reason existed, for her imperviousness was in her blood, and not the result of a system of thought. While she sat thus brooding without end or aim, the tears streaming from her eyes, a slight sound upon the slip of pebbly beach, and Paul Stearns stood before her. She half rose from her rocky seat, brushing back her hair, and drying her eye with one and the same motion, when Paul asked, in a low voice,

"Can we not be friends, Patience?"
"As you will," she answered, coldly.

Paul was proud, and accustomed to find the girls in general far from being averse to his society, and this had rendered him perhaps a little vain and exacting; and, Patience instinctively aware of the prorogatives of her ext to command at least before marriage, whatever they might do afterward, was not disposed to yield to his assumptions; accordingly, when he half turned away with an angry flush, she said with some asperity,

"Paul Stearns, you and I do nothing but quarrel, and I think of late we have learned to hate each other."

Paul was very pale, and he answered, "If you think so, Patience, I will trouble you no more; good bye," and, springing upon a raft of logs half imbedded in ice and water, he ascended the stream without once turning to look upon the proud girl whom he left pale and trembling. She tried to speak, but her tongue refused its office, and she sank back with a sickness of the heart she had never before known, although she had known much of coldness and cruelty in the few years she had lived in the world.

Patience had been nurtured amid the idiotic,

weak, poor, and miserable waifs of the "poor-house." She might br she might not have good blood in her veins—she was never to know, for the poor mother that bore her come whence no one knew; foot-sore and sick, she had sank down by the gate, into which she was taken, and in a few hours she went forth again upon the long, unknown but much frequented road over which all must travel soon or late. Ere she started on her lonely road, she pressed pale, cold lips upon an unconscious babe and murmured, "Patience, patience!" as if she had long tried to school her heart to this aching, hopeless virtue.

The poor, trembling heart and hope-forsaken crones who took the child from her dead arms. had called it Patience because of this, and it proving a strong and handsome babe, requiring little care, it soon became the one cheery object of the establishment, and there was a kindly strife for her smiles and favors. But it soon became apparent that she "carried too many guns" for an institution whose highest claims were in behalf of squalor and imbecility. The self-willed, observant child, not comprehending the propriety of heaping hard words, abuse, and even blows, as a just penalty for the improprieties of age, poverty and sickness, loudly remonstrated against this salutary discipline. The foolish, unreasonable child stole bread and meat, and gave it to those whose poor old stomachs were not satisfied with the prescribed amount provided.

For this she had been beat, and shut into dark cellars, but she was no sooner let out than she might be seen scraping up chips and gathering bits of old boxes and wood to warm the room of some bed-ridden wretch, who persisted in heaving his wheezy breath, when he had ceased to be of any use in the world. Then she found a little skillet and made him porridge, to warm his old bones, all the time humming some gay tune which she had learned, nobody knew how.

There was one woman there, born and bred a lady, but she had lived so long that her relations had forgotten her. They had managed her property for her till it was all gone, and having moved to another part of the country, she was found, one cold winter day, without fire or food, and was then taken to the "poor-house." Perhaps she did not grow humble and cringing, as old people are expected to grow, for it is well known that poor relations must be willing to "eat humble pie," or they are not to be endured, and so Mrs. Dana in her old age contrived to smother her pride under the pauper's shawl as best she might.

This woman had taught Patience to read and write, and gave her the first moral ideas she ever received. She instructed her to be frank, and honest, and proud; yes, the pauper, Mrs. Dana, again and again said to her, "Be proud, child! be proud; it is all that will save you!"

One morning her teacher was found seated in her low rocking-chair, bolt upright, stiff and dead. Patience, contrary to what was expected of her, was not violent nor noisy in her grief. She stood with her arms around the dead neck, only whispering, "She loved me, she loved me!" Patience had seen too many put into their pine coffins, and laid away in the ground without a single mourner, to be surprised at the death of her only friend, and she was the only one that dropped a tear over the dust of the once proud and handsome woman. She would steal away in the dusk to weep her silent tears, and wonder if the outside world was like the circumscribed world of the poor-house.

At length Mrs. Grant, needing a girl-of-all-work came to the house for help, and seeing Patience—a bright, wholesome girl, without a spot or blemish of pauperism in her looks, she had her bound to her till the age of eighteen, and took her to her cold, well-to-do mansion. Here she grew, as we have seen, proud, self-reliant, capable, and handsome.

Patience had dropped her head upon her knees after Paul left her, and all the wearisome memories of her early life crowded upon her mind, and she murmured to herself,

"One mother-kiss! oh for only one! Mrs. Dana used to hold me close to her side, and that was all the tenderness I have ever known: and now Paul is rough and hard, and I wish I was dead!"

As if to gratify the wish, a heavy wave dashed far above her head, and at the same moment she uttered a loud cry, and groped at the fissures of the rocks and the dwarf shrubs that were deeply rooted therein, to prevent being carried away by the current of water that seemed to mount to the skies. She had an indistinct impression of seeing the mill rise high in the air, and shake and tremble like a living creature, and then she knew no more.

Absorbed in her own thoughts she had not observed a deep, threatening roar, that rose far above the sound of the falls, like the underswell of the ocean, more ominous than the break of the sea over the rocks. She had not noted how the ice began to whirl and creak, and rise block above block, glittering in the light, grinding like the teeth of a marine monster, and bearing the water about her feet. She had not seen the

logs imbedded in the ice rise on end, writhing, convolved, darting here and there, like a multitude of snakes, and then dashing headlong down the current, to be followed by others broken and torn into shreds, and plunging madly below.

It was a grand sight, the breaking up of the ice in the river; but so great had been the accumulation of snow and ice, so sudden and violent the fall of rain under the southerly wind, that the streams had overflown, and the ice disruptured, piled in huge masses above the falls, had formed a dam, which for awhile arrested its fury. The people far and wide saw the danger, knew the portent of that heavy roar, surging like a thunder-voice, the "voice of many waters;" venturous men, with pick and axe, sought to create a channel for the accumulating flood, but in vain.

The river was lined with anxious faces, some white with dread, some rising above the sense of danger, exulting in the sublime spectacle before them. The river was rapidly rising, and all fancied that the jam of ice would soon give way. There was a breathless silence, except the sound of deep calling unto deep, when the shrick of Patience rose upon the air, and at the same moment the people surged backward with loud cries, as the ice, precipitated a hundred feet in the air, hung a diamond mass for an instant above, and then dashing downward bore a wild, multitudinous wave of ice and lumber, and roaring waters, lifting from its pathway the great mills, as if they had been a child's cob-house, and bearing them onward so violently hugged in their relentless arms, that they shrank in, timber by timber, and were lost in the whirlpool below.

Paul stood upon the bank watching the hardy millmen as they, with long poles, aided the downward flow of the grinding ice, when the shriek of Patience struck upon his ear, and he instantly divined that she had not yet left the grotto where he had last seen her. He rushed madly down the bank and the horrified spectators saw with dismay the billows were surging wildly beneath him. With almost superhuman strength he gathered her in his arms, but the current of ice jammed them both against the rocks, and relief seemed hopeless. Onward came the masses of ice, hurling themselves upward, and heaving onward the drifts of logs and riven timbers from the mill.

· The human voice was lost in the turmoil, but the mill-men plied their hooks without ceasing, and Paul did not lose his presence of mind. The pressure of water drove them into the grotto, and a curve in the rocks prevented them | love you; but from this time forth, you and I

from being forced outward. The danger now was no less from suffocation than from the crash of ice and lumber. Firmly the mill-men pressed the debris outward with their long hooks, and shouted to them that the danger would soon be over. The great mass of ice which had been jammed above had rushed past them, and the flood fell momentarily, waiting for the mass now gathering its might for another plunge. Instantly a dozen men rushed forward to the rescue, and stout arms beat back a huge block of ice, which had barred the way and, like a door, shielded them from the driving wreck, and the lovers were then borne forth to the bank above.

Paul was scarcely the worse for the hazard he had run, but Patience gave no signs of animation, and a melancholy group bore her to the cottage of the Widow Stearns. The Professor's family, like the others, had come forth to witness "the breaking up of the ice in the river," and Sister Electa was one of the first to take the nearly frantic Paul by the hand and with words of kindly wisdom beseech him to wait in hope of the result. She it was who stood over the lifeless form, and by all gentle care applied the best remedies for her restoration. At length a faint fluttering of the heart announced the approach of life, and her lips murmured,

"Perfect peace! Send me not away, dear heart! send me not away. I am sick of the cold, cold world."

"Patience, dear Patience! do not leave me," and Paul threw himself upon his knees, and with more words of tenderness than had ever blessed the ears of the poor girl. Her head fell upon his shoulder, and again the fluttering pulse ceased to beat. The women now forced Paul from the room, and there was a perfect avalanche of heated blankets, and floods of vinegar and camphor administered, which in due time brought back the glow to the cheeks of Patience. and a languid smile to her lips.

She was a strong, healthy girl, and soon became embarrassed under the unwonted petting, and more than once she lifted her head to declare she was quite as good as new, when a swoon would follow. At length she fell into a profound sleep, and awoke perfectly restored. Sister Electa retired as she opened her eyes, and Paul ventured to whisper, softly,

"Are we friends now, Patience?"

She pressed the hand that held hers, and the old saucy smile again gave promise of trouble.

"No, Patience; I love you, and shall always

must understand each other. Do you love me, Patience?"

Paul may have been over-hasty, for Patience whispered, "You know I always have loved you," and then she burst into a violent fit of crying, and this was followed by such a fit of laughing, that the women all came rushing in, crying, "Dear me!" "La suz!" "My soul!" and "My conscience!" and deluged her with camphor, slapped her hands, and burnt feathers under hor nose, with other such gentle and genial appliances as are usually resorted to on such occasions.

Paul was pronounced a monster, for every body believed he had got up a quarrel just when he was a brute for doing it; only Janet looked balf glad, and muttered that "Patience deserved the hardest things that Paul could say. She was too mighty topping for a gal out of the poor-house."

At this point Paul rushed out of the house, not being willing to retort upon his mother; as he did so Sister Electa took his hand in hers; she even drew the proud head down, and kissed his cheek, and said,

"Paul, I have never known the care of parent or relative. I will call thee brother. Be very gentle with the girl; she is brave and good, and loves thee. I will do a sister's office for her."

Not long after this event, a little mahogany box in the vestibule of the meeting-house contained "the imtentions of marriage" on the part of Patience Grant and Paul Stearns. On the first day of this announcement, Seth Wyman was observed to stand for a long time reading it over and over, as if very difficult of comprehension. One and another of the old admirers of Patience did the same, each one consoling himself with the exclamation, "All right! if Paul Stearns hasn't caught a tartar, I miss my guess!"

We have thus brought the loves of Patience and Paul Stearns to a marriage-day, anticipating somewhat the period of our story of the Professor. Electa grew very fond of the girl, and by her wise counsel did much to allay the irritable, proud feelings of one whose early experience had not been very harmonious, and whose earliest lesson had been "Be proud, Patience; it is all that will save you?"

Janet quarreled with her, as was her nature, but the irresistible buoyancy and sunshine in the heart of Patience, finally warmed every cranny of the old heart, and the widow loved her as it was not thought possible for such a dry, wrinkled, perverse, old thing to love.

When, in the course of years, sons and daughters appeared in the cottage, Janet fairly pined and mourned in soul for John Stearns, who had never known any peace as her husband.

"Oh! he'd a been so proud and so happy; he was a good creetur! a good creetur! and if he could 'ave only seen little John, 'twould a done him good! Miss Electa, I never 've got quite reconciled to the buryin' up of that little box; it seems a loss and a waste, and I've eenymost addled my brain tryin' to study out his mother, and that lock of hair; but I suppose it's all the same; he was a good creetur! a good creetur!" Whereat Electa bade her to be more considerate of the friends left her, and let the dead past bury its dead.

A VAST GROGSHOP.—Bear me witness if I exaggerate when I say, that the country is rapidly becoming one vast grogshop, to which half a million of its youth are yearly introduced and over whose threshold sixty thousand are annually carted to a drunkard's grave. The streets of our cities echo to the shouts and oaths of drunken revellers, from whom society seeks protection through police regulations and within hovel and mansion alike, not entirely smothered either by physical fear or social pride is heard the sound of insane violence and wailing. What river is there along our coasts, what harbor upon whose shores a city stands, whose waters have not closed over the bodies of those who, victims to this traffic, were flung by violent hands from pier or bridge, or madly sought beneath their silent surface forgetfulness of woes or wretchedness too pregnant to be borne. Within the darkness of dungeons and along our highways, may be seen wrecks of former beauty and manhood wrought by this traffic, and now and then one, as by a miracle, after long years of misery and debasement, rescued therefrom, lifts up his voice in public, and makes men aghast with the recital of his woes and degradation .- W. H. Murray.

Goodness better than Greatness.—
We all naturally desire "great things" for our children. But too often we forget how much better goodness is than greatness. "Water will always finds its level," so of the numbers which go to make up our communities. Lay a substantial foundation for the character in noble, manly, generous principles, and your boy will not fail to succeed in life. Guide and counsel him wisely, but do not attempt to force him into a calling for which his taste and talents totally unfit him.—Working Farmer.

Reminiscences of Sir James Y. Simpson.

BY DR. LYDIA F. FOWLER.

S a mountain torrent by its own weight overleaps every artificial obstacle in its pathway, and carries every thing before it, so genius laughs at poverty, lowliness of birth, inferiority of position, and ultimately triumphs over rank and station, till the whole world lies at its feet. In confirmation of this, we might cite the lives of many individuals who have become illustrious through their own merits, and have risen to lofty positions. We can specially apply it to the illustrious physician, whose recent death has sent a thrill of sadness throughout the entire medical world; for he was one of the brightest stars in the medical firmament, and has left a vacancy that in many respects can never be filled, any more than that left by Shakspeare in the literary world, or by Beethoven in the musical. Though born in the little town of Bathgate, Linlithgowshire, Scotland, in 1811, yet he was truly a cosmopolitan in his sympathies, and belonged to the whole world. Well may the world be appalled to learn that he who had numbered his patients by thousands and even tens of thousands, at last has been struck down by the Death-angel, at the early age of fifty-eight.

Those who saw a little baker's boy, forty years ago, modestly pursuing his humble calling, might have exclaimed, "For what can this boy want to gain a knowledge of the classics? He is the son of a poor man, in an humble station in life, and he will only be a poor tradesman, though probably an honest one; but what business has he to have aspirations or an ambition to study those things that only the sons of wealthy gontlemen should study."

If there is the germ of the lordly oak in the seed, it will grow to a stately tree, if the seed have the opportunity for development. The same is true with the human soul. While this little boy was occupied at his daily work, he improved all his spare moments, and spent his evenings in close study, actuated apparently by no other motive than the uncontrollable love of study and his insatiate desire to gain information. Genius is innate, and generally crops out early in life in some form or other, making some visible sign of its latent power, even before its possessor is fully aware of its existence. There may be exceptional cases of some who have in their youth given no promise of great-

ness, while they have risen to fame in subsequent life; but nearly all earth's gifted ones, those who have filled a high niche in the altar of fame, have early thirsted after the rich treasures of thought and knowledge stored away in books, in libraries, and in galleries of art. Circumstances sometimes crush these aspirations or suffer them to lie buried for years; but as a kernel of wheat that has been concealed for 3,000 years beneath the Egyptian soil or hid away in a mummy-case will expand and grow as soon as it feels the penetrating and fructifying influences of the sun, so will genius that has been held in bondage for a time spring forth in a new life when the bands are removed. This little miller's boy was assisted by a lady, who sent him to school and subsequently to college, where he studied diligently, gaining all the prizes and attracting the attention of his teachers. He graduated at the Medical University in Edinburgh, and was employed as an assistant by Prof. Thomson, who was skilled in Pathology. The young physician earnestly sought to obtain a small medical position as a parochial medical officer in Inverhip on the Clyde; but Destiny had decreed for him another and a higher sphere than to hide his talents in a small town, and he failed to secure the appointment. He was advised to turn his attention to obstetrical science, and he eked out his small means by teaching in the academical school. Prof. Hamilton died in 1840, and the chair of Midwifery was vacant. For this chair there was a fierce contention. Many of the candidates had friends, position, reputation, and wealth, while this poor, young medical practitioner had scarcely any thing but brains. I have been told that he owed for his horse and carriage at this time, so few patients had he been able to gain. He had one or two personal friends among the council, the deciding body. and was known as a very clever student. He obtained the professorship, it is said, by a majority of one vote. This was the beginning or the key-stone of the triumphal arch of his subsequent successful career. It gave him position, it legitimatized every thing he did, it was for him the status that made his diagnosis of a disease considered of value and weight. Wealth, position, and talent are three important levers by which society in Edinburgh can be moved.

The first is a very important one; the second ! equally so; if an individual have the third in a preëminent degree, he may accomplish much; but, if the last be conjoined to the other two, particularly to the second, success is sure to follow. Had Prof. Simpson been satisfied with a routine life, in other words, had he not been endowed with genius, he would have pursued the even tenor of his way as his predecessors had done, have gained a lucrative practice, acquired wealth, and perhaps local renown. But the zeal and enthusiasm of his youth had not at all abated. With energy and tireless industry he applied his mind to every collateral branch of the science of medicine, and, con amore, he "trimmed the midnight lamp" to make himself master of the profession he had chosen. Though some of the jealous professors said of him, in derision, at the time he contended for the professorship, "He is not a man of letters," this was an unjust accusation, for he really possessed much literary knowledge, had paid special attention to the subject of archeology, and had written many interesting papers on the subject, as well as many theses on his own special branch. Not long after ether was used as an ansesthetic agent in the United States, Prof. Simpson's attention was turned to the subject, and with the help of a Liverpool chemist, he arrived at the important conclusion in 1847, that chloroform was-a legitimate agent which could be used to assuage the pain of the sufferer in surgical operations, etc. He made many experiments on himself and his assistant physicians before he announced the result of his observations; but at length he was hailed as the discoverer of this great ansesthetic agent. At the time, he modestly disclaimed being an inventor, saying, he "only claimed to restore what was already known to the ancients." In an article on the subject, he writes, "that the whole past history of anæthesia is a remarkable illustration of the fact that science has sometimes for a long season altogether lost sight of great practical thoughts, man being unprovided with proper means and instruments for carrying those thoughts into practice; hence, it ever and anon occurs that supposed medical discoveries are only the re-discoveries of principles already sufficiently known to other ages or remote nations of men." He also referred to a tragedy published in 1657, "in which it is thought proper to imitate the pities of old surgeons who cast their patients asleep before commencing the operation;" also gave many curious accounts of different modes that have been practiced to relieve pain. We can, in one sense, easily say there is no new thing under the

sun; for investigations prove that the art of Printing was practiced by the Chinese 500 years before it was re-discovered by Guttenberg or Faust, that the mariner's compass was known to the Chinese more than a thousand years before the Christian era, more than two thousand before Marco Palo re-discovered it in 1260, and Homer in the Odyssey introduces Helan at the court of Menelaus, in the act of administering a wonderful Egyptian drug which caused wounded and afflicted men to forget their pain, which must have been some anæsthetic drug. But Prof. Simpson by his experiments demonstrated the feasibility of using chloroform, and made it a practical agent to alleviate human suffering, and on this account he has rendered incalculable benefit to his race.

Prof. Simpson has also suggested a mode to prevent hemorrhage from cut arteries in surgical operations, called "acupressure." has been abused by some and commended by others. As soon as the world began to recognize Prof. Simpson's discovery of chloroform, honors came to him, till they almost oppressed him by their weight. A person has only to take a few steps up the ladder of fame, when he finds he can reach the pinnacle much easier than he was able to mount the first round. In 1852, the Professor was elected President of the Royal College of Physicians in Edinburgh; then the President of the Medico-Chirurgical Society the following year. In 1853, he was made Foreign Associate of the French Academy of Medicine, and received the Montyon prize of 2,000 francs, as a recognition of his genius and philanthropy in suggesting a way to alleviate human suffering. He was chosen Physician-Accoucheur to the Queen for Scotland, and a Baronetcy was conferred on him by the Queen in 1866. Oxford gave him her degree of D. C. L., and every medical society of any note throughout the entire world conferred honor on itself, by conferring on him the highest honors it had power to give; and quite recently the freedom of Edinburgh was conferred on him, which he considered the highest honor he had received. Thus was he the favored one in every circle of the land, and had an entree into every dwelling, from that of the peasant to the palace of the Queen.

An individual who has large veneration often worships in youth many idols and heroes. As years roll on, the disenchantment too often comes by a personal acquaintanceship with some of these cherished heroes. Alas, how many of my cherished idols have been shattered by a nearer view of those whom I worshiped in my

early days! Personal acquaintanceship is a fearful Iconoclast. Long ago, I began to feel that it was better to commune with the world's gifted ones through their printed thoughts, if I did not wish some of them to be shaken from the pedestal to which I had raised them. There was no statesman I so longed to see and hear on my arrival in England, as Lord Brougham; but alas! when I did have the opportunity I had craved, I found that the Lord Brougham I had worshiped from childhood had been dead for many years, though he still moved about in the flesh, bodily, corporeally. His soul was dead!

The one I most desired to see, belonging to the medical world, this side of France, was Prof. Simpson. I feared, however, that I should find that he was human also-or rather, that if I did see him, the hero would vanish. Summoning all the courage I could muster, I called at his residence one day, sevoral years since. His carriage was at the door, and he was about to go to visit a patient. I showed to him several certificates I had brought from Paris and London from professors with whom I had studied, and said to him, "I am going out of town for a few weeks, and then I shall return to spend a month in Edinburgh, and if you can spare ten or fifteen minutes to talk to me about the use of chloroform after I return, I should prize it very much." He looked at the papers, "Ab," he said, "I know that French professor by reputation. So you have been in a hospital in London, and are a medical student? Well, so am I. I can not stop to talk with you this morning, for I must go immediately; but when you return to Edinburgh come at 2 o'clock on some day to see me, and send me your card. Good morning." I saw at one glance the secret of his wonderful power; what it was that had made his house in Queen Street the "Mecca" for sick pilgrims from all quarters of the civilized world. I will refer to it anon.

On my return to Edinburgh, I called at the Professor's residence, and sent in my card to him. I was ushered into an ante-room, and it seemed to me I waited for an hour, though I suppose it was not more than fifteen minutes. I began to repent of my temerity or audacity in wishing to take even a fragment of that precious time that had so many legitimate calls upon it, and to fancy that he had perhaps forgotten what he said in a moment when his sympathies were predominant, that he would see me again. At length the butler came and said I "was to go with him into the dining-room." On entering the room, I thought he must

have been certainly mistaken; for the table was full of strangers, and there was only one seat vacant, next to the Professor. I involuntarily drew back, abashed, wishing that I was somewhere, any where else than in that room; and I mentally resolved that I would never again seek an interview with a noted individual like the Professor. He, however, quickly said, in a tone of voice that would have reassured even a timid child, "Come, and sit here by me." Then, turning to the company, the majority of whom were physicians from neighboring towns, the two or three others being favorite lady patients, he said, "We have another doctor to add to our company to-day. You know the Americans are ahead of us in these things." Tormented by the influences of this organ of veneration to which I have referred, my cheeks began to tingle with the diffidence and bashfulness of my childhood, and I then heartily wished I was away. But this feeling lasted only for a moment. As soon as I was seated, the Professor began to converse with a blandness and suavity I have never seen surpassed, having conversational powers that would have been considered equal to those Johnson possessed, had there been a Boswell to note down the coruscations of wit and humor that fell from his lips like a shower of diamond-dust. His wit seemed to be the embodiment of a lively imagination and an active perception of the fitness and incongruity of things, and sparkled with merriment as if running from an overflowing fountain. It lighted up his whole countenance and infused itself into the hearts of all about him, till all felt as much at home as though they had always been acquainted with their host. He had left all his professional, sanctimonious etiquette in the lecture-room, or in his consulting-room, and brought to that table only his warm, genial, sunny nature that contagiously permeated every soul present, as though all had been under the influence of a sunbeam. I can not tell what we had to eat at that luncheon, and I really do not know whether I eat any thing. I think there were only thin slices of bread buttered on the table, besides tea and coffee. It was not for the temporal feast, but for "the feast of reason and the flow of soul," that his friends had gathered. I could have wished this interview had been prolonged indefinitely, had it been possible. As memory reverts to it now, after the lapse of several years, it is fraught with delightful remembrances.

In about an hour the Professor arose from the table, without ceremony or apology, and started to go to his consulting-room up stairs. It was understood by all that the business of his profession would occupy his attention for the rest of the afternoon, and that the company could disperse, informally, as they liked. Before leaving the room, the Professor said to me, "Come here when and as often as you like, and learn all you can while you are in town." He then introduced me to a doctor, from out of town, who was present, remarking, "This doctor has a 'crochet' in obstetrics, and perhaps he will explain to you what it is."

'The doctor with the "crochet" told me, "that he believed 'labor' could be shortened in the majority of cases, if the physician turned the child in every case of 'head presentation,' to make it a 'foot presentation,' when it could be delivered speedily by the accoucheur." The next day I asked Prof. Simpson what he thought of the doctor's "crochet." He smiled, as he quaintly replied, "He has not turned me yet, when he does, I shall be able to give an opinion on the subject."

I met, at this 2 o'clock lunch, on different occasions, distinguished artists, doctors, divines, and literary people, who were pleased to congregate around the Professor who was a magnet to draw all who had in any way become noted. They were almost sure to find him at home at this time, and could enjoy a brief social intercourse with him. It was not like a formal dinner, but more as a rallying-point for a friendly, social, literary, and scientific gathering.

The Professor occupied a large double house. or one comprising two ordinary dwellings. One long saloon in the second story was the waiting-room for his patients, and this was generally full at 2 o'clock. They usually received numbered tickets from a basket, and had an audience with the Professor in his consultingroom opposite to the saloon, in the order of their tickets, so that frequently those who came first had to wait till 7 o'clock before they could see him, and sometimes when there was an unusual number of patients, had to call again on another day before they could consult him. Frequently bis patients would be scattered in six or seven rooms of the house, while his nephew, Dr. Alexander Simpson, a very clever physician, on whom the Professor's mantle ought to fall, attended to poor patients at certain hours in a consulting-room on the first floor. The Professor's house was literally thronged with patients, from the highest to the lowest grade in society from all parts of the world, from 2 o'clock till 7 in the afternoon, while his mornings and evenings were usually spent in visiting patients in the town, those who were too ill to

come to his residence. He frequently rode all night, and though he had many assistants, still in all important cases he was obliged to give his personal attendance, as every one preferred the Professor when they could have him, and would even wait for his convenience. He was sent for to go to all parts of the country to consult other physicians in special cases, and he had to do the work of three ordinary physicians, simply because he could not delegate his skill to others, or transfer the confidence his patients reposed in him to his coadjutors.

I gained more insight into the diagnosis of the special diseases he treated, at his house. than by any previous study; for by one-half hour's conversation, I frequently obtained his concentrated experience on the subject, and he so freely imparted it, so generously gave me hints and information that it had taken him years to collect, that I prize the opportunity I had more than I can express. I saw many of his operations, both in the infirmary and at his own house. This was all the more generous, because frequently a lady patient would say to me, in his presence, she wished I were "settled in Edinburgh, when she would come to me, because I was a woman." My invariable reply was, "That, though I believed that women should be educated to treat the diseases of women, yet I would make an exception of the Professor, who seemed to have both the feminine and the masculine elements so blended, that he had the softness and sympathy of the woman and the strength and fortitude of the man." One day, the Professor was speaking of his early efforts to introduce chloroform. They had decided to try it on a man who was to have a surgical operation performed. The Professor was to administer the chloroform, and this was the first time it was to be used for this purpose in Edinburgh. Every thing was ready for the operation, but the Professor, who had been called to visit another patient, was necessarily absent. The doctors waited and waited, still the Professor did not make his appearance. They did not dare to use the chloroform without him, yet it was necessary to make the operation that day. They resolved to proceed with the operation and to make it without the chloroform, as the Professor had been detained. They accordingly did so, and the man died during the operation. "If I had been there," said the Professor, "I should have certainly administered chloroform, and then it would have gone forth to the world that the man died under the influence of it, and public opinion would have condemned its use in toto, but, providentially, this was not to be the case." In his earliest endeavors to extend the use of chloroform, some over-scrupulous calvinistic objectors labored with him on the subject, and said, "that to check the sensation of pain in connection with 'visitations of God,' was to contravene the decrees of an all-wise Creator." The Professor heard their arguments very patiently and good naturedly, and then very quaintly replied, "I am not the first to employ such an expedient, for it is written in the Good Book that, in order to extract the rib from the first man, 'God threw Adam into a deep sleep." His objectors found it was useless to argue with a man so well posted not only on his subject, but on almost all other collateral branches of learning.

I shall never forget his kind words when I went to bid him good bye, and to thank him for all the information he had given me. He replied, "You have deserved it all, and will, I know, make good use of it." "God helping me, I will labor for others," was all that I could A remembrance of his kindness manifested in so many different ways quite overcame me. Though it would seem as if his life had been crowned with honors, yet it was also shadowed by the loss of a favorite daughter, and a son who had graduated as a physician and had already given promise of great cleverness, about four years since. Bowed down with sorrow be went abroad for a season, and at Geneva, he wrote three years since, the following touching lines, so expressive of his grief and also of his bright faith in an Arm etrenger than his own:

"'Mid this world's ceaseless strife,
When flesh and spirit fail me,
I stop and think of another life
Where ills can ne'er assail me;
Where my wearied arm shall cease its fight,
My heart shall cease its sorrow,
And this dark night, change for the light
Of an everlasting morrow.

Then shall be mine, through grace divine, A rest that knows no ending,
Which my soul's eye would fain descry,
Though still with clay 'tis blending.
Ah, Savior dear, while I tarry here
Where a Father's love has found me,
Oh let me feel, through woe and weal,
Thy guardian arm around me."

A man who had risen to the highest pinnacle of fame, had his pathway beset with many who would have pulled him down to their lown level; but he lived down all opposition, and was more

universally beloved and respected than any other individual in Edinburgh. No wonder he was followed to the grave by a last concourse of the mourning citizens—1700 gentlemen on foot, 70 carriages, and all the different societies of the town; and that when his last remains had been covered by the turf, loving hands deposited on his grave wreaths of snowy-white lilies, emblematical of his pure life and their affection for him.

It is well to ponder for a time on the elements of his remarkable success. In the first place, he had a large brain and a comprehensive mind. The weight of his brain, including the cerebellum, after death, was 54 ounces, while the male brain ranges chiefly between 46 and 53 ounces, the average being 4914 ounces. The convolutions were remarkably numerous, twisting and twining around each other as if they could not find room in the head, according to the opinion of one present at the post-mortem examination. His was truly a "Leonine" head, which gave him mental grasp and power. Secondly, his brain was particularly developed in the central part of the forehead, which gave him great powers of Observation, and a remarkably tenacious memory of all he saw or learned by study. He not only gathered facts, but he treasured them in his storehouse ready for use when they were needed. Thirdly, his Comparison was specially large, and he had great powers of analysis and discrimination which enabled him to test every thing, to try all experiments, and also to diagnose disease with wonderful accuracy. Fourthly, he had strong Aspirations which would never allow him to be satisfied with present attainments. He was constantly striving for more knowledge. Fifthly, he had great Industry and never wasted a fragment of time. He met his friends at his table, thus eating and visiting at the same time, and frequently, while his patients were talking and detailing their symptoms over and over again to him, as some garrulous patients will do, he comprehended their condition at a glance; but, with good nature, would allow them to free their minds in his consulting-room, and while they were talking, he would sit at his writingdesk and write letters that required answers, or parts of essays that might never have been written, if he had not improved his odd minutes. Sixthly, he had great powers of Concentration, and could apply his mind to a difficult case till he thoroughly comprehended it. Though he had such a variety of patients to see, yet he could give his attention for the time being to each one, as though it were the only

one in which he was interested. Seventhly, he had great Perseverance. He would not admit the word fail as long as there was the least hope. He had to contend for every step he took in Edinburgh, not only to make his way, but to keep it. The outside world was more kind than were his professional brethren at home. If he had not had Firmness, he could not have overcome all the obstacles that were thrown in his way. Eighthly, an undying love for his profession. It was his life, and he sacrificed every thing-ease, comfort, and even life itself, for it. Ninthly, his unbending Will. His patients must do as he said. If they wished to consult other physicians he was willing, and he frequently called half a dozen when it was a responsible case. Said a lady to him, "Don't you think it would be a benefit if I should go into some Hydropathic institution?" quickly replied, "Go, by all means," and even selected one for her. He saw that she wanted to have a change of physicians or a change of treatment, and that he could do her no good unless she had implicit confidence in him. But a majority of patients have a vacillating will, and they prefer to have a doctor who can say, "do this and do that," especially when they confide in him. Tenthly, he had great Philanthropy. His benevolence was not obstrusive. The rich had to pay him large fees which they did willingly, besides giving him valuable presents; but the poor were treated gratuitously, and many of the middle classes who could not afford to pay his highest prices received the attention of his assistants. Eleventhly, he had strong social qualities. He made his patients his friends, and they worked for him by advertising him wherever they went. Twelfthly, he had good conversational powers, both in private and in debate. He was an excellent lecturer, an efficient speaker on politics, and when argument failed, he had an efficient weapon by the use of wit and mirth, mingled with some sarcasm, to accomplish his ends. Thirteenthly, there was an unaffected simplicity of character, great gentleness, suavity, and mildness, and pliability of disposition that inspired the confidence of the timid, and enabled him to adapt himself to different associations and to a diversity of minds. Having so much of the vital temperament, he could infuse the magnetic, life-giving elements into his patients, and in this way succeeded when others would have failed. Fourteenthly, he possessed as the crowning quality, a thorough Christian spirit, which permeated his whole life and enabled him to lead a true life of principle, so that he was unmoved

by the greatest flattery that could be heaped upon an individual; and was able to repeat only a short time before his death with emphasis, "Whosoever believeth in Him shall not perish." Such were the principal characteristics of the great man who has so recently passed away. His personal appearance was striking. He was rather short in stature, and his head looked at times heavy for his shoulders. His mouth had a very expressive smile when he was pleased, which I have never seen correctly photographed; and his eye was full of brightness, so that, although the features were not particularly finely chiseled, there was a radiance about them, when his face was lit up, as though a sunbeam from his glowing soul had flashed upon them.

It is sad to think that his career was finished so early, so prematurely. Edinburgh has lost many of her bright and shining lights before they had fairly attained the maximum of their powers. Her cemeteries contain the precious dust of many who have blessed the world by their labors of love, but who have found premature graves. Prof. Forbes, a very promising member of the University, died early. Prof. Miller, a great philanthropist, and Prof. Goodsir, died early. Prof. Lyme has given up active labor. Dr. Guthrie has long ago ceased from his preaching. Some of our American writers, who have not studied statistics and are not personally acquainted with Great Britain, love to reiterate that Americans die prematurely, while the people in Great Britain live to a green old age and then die, like a shock of corn fully ripe. I have studied the peculiarities of the people in both countries, as well as statistics, and have come to this conclusion—that whenever people break physiological laws they suffer, it matters not what the nationality may be. Lewis Cass, Thomas Benton, Daniel Webster, and Henry Clay, as statesmen, any day would compare with Gladstone and Bright in stamina of constitution. Gladstone was obliged to rest last summer from his labors on account of overwork, and Mr. Bright has had to have absolute rest during this winter for the same reason. Washington Irving and Bryant will compare well with Robert Burns and Henry Kirke White in physical vigor. England has just lost one of her cleverest artists, Macclise, prematurely, the cause was overwork; and Mr. Phillips, a very clever Scotch artist, died a few years ago, prematurely, from the same cause. Cobden. one of England's greatest statesmen, might have been living now, but he was overworked, and the result was premature death. There

are two causes in Edinburgh that have a tendency to shorten life. One is a peculiar bleak wind that sweeps down through the town from the hills, and is particularly keen and trying to those with a pulmonary weakness or with cardiac affections. The other is the close proximity of the old town, in which almost every sanitary law is disobeyed. I only wonder that the new town is not besieged with pestilence every year, that it does not stalk abroad and depopulate the beautiful city, which in many respects is one of the finest in Great Britain. I have had ample opportunities to know, for I spent a week at one time with a city missionary among the closets, cellars, and houses, seven and eight stories high, till I was sick at the thought that human beings could be huddled into such quarters. Of course, in the summer season the effluvia arising from such dwellings must breed disease and malaria. Besides these causes that may have had some influence, Prof. Simpson lived three lives in one! He had an enormous practice and so many appeals to his sympathies, that he had hardly any time for rest or sleep. He was besieged at all times and at all places by patients, till at last his wiry, vital, but not muscular constitution, succumbed. nothing half so exhausting as the exercise of a sympathetic nature, and when he had an anxiety with regard to some special patient, he would steal quietly into the house at 12 o'clock at night and then again at 7 in the morning, as I have known of his doing in many instances. He died with the harness on. His last work was one of love. He exerted himself to give his testimony in the case of Lady Mordaunt as to her puerperal mania. At last, the oil burned out of the lamp, when he went quietly to rest, reposing sweetly as a child when lying on its mother's breast. Though they have laid him away to sleep his last sleep, yet he will ever be remembered as one who beneficently contributed his energies and his genius to alleviate human misery, and one who left the world better than he found it. His eldest son takes the title his father earned, and is studying medicine in the University. He may be very clever, but he has commenced his life very differently from his father, and consequently we can not expect he will accomplish as much, should his life be spared for the active labors of life.

An Old Maxim.—It is better to be an honor to the hod than a disgrace to the crown; better to be an accomplished mechanic, than a contemptible king.

THE TEMPERANCE REFORM.—There are some who say the temperance movement is a sentimental affair, and that the reform will not go on. The Reform will go on. Point me to a reform which ever stopped. Why, reform is motion, and motion ceaselessly acted upon by the impulse of acceleration. So is it with the Temperance movement. It has been terribly blundered in the past. It may be as terribly blundered in the future. It has been stoutly opposed and will ever be. But neither the blunders of its friends nor the opposition of its foes can turn it back. From whatever standpoint you look at it, it is seen to be in exact harmony with the age; nay, it is part of the age itself. The great civil revolution is to be supplemented with a great social revolution. God has so written it down. He has blest the efforts of its friends, until it has already taken a strong hold on the popular heart. Its champions are not fanatic, they are not sentimentalists; only terribly in earnest. Back of them are memories which will not let them pause. Broken circles and ruined altars, and fallen roof-trees, and the cold, sodden ashes of once genial fires, urge them on. No fear such men and women will falter, until you can take out of the human mind painful recollections; until you can make the children forget the follies and vices of the parents, over which they mounted usefulness and honor; until the memory will surrender from its custody the oaths of drunken blasphemy and the pains of brutal violence; until you can do these things, no man, no combination of men can stop this reform. Its cause lies deep as human feeling itself. It draws its current from sources embedded in the very fastnesses of man's nature. The Reform then will go on. It will go on because its principles are correct and the progress beneficent. The wave which has been gathering force and for these fifty years will continue to roll, because the hand of the Lord is under and back of it, and the denunciations of its opponents, and the bribed eloquence of the unprincipled can not check, no, nor retard the onward movement of its flow. Upon the white crest of it, thousands . will be lifted to virtue and honor, and thousands more who put themselves in front of it, will be submerged and swept away. The crisis through which this reform is passing in this State will do good. It will make known its friends and unmask its foes. The concussions above and around us will purify the atmosphere, and when the clouds have parted and melted away, we shall breathe purer air and behold summer skies. -W. H. Murray.

Sent to Bed.

BY EDGAR FAWCETT.

T WAS N'T a particle sleepy,
And yet here I lie, all the same,
Sent straight off to bed when the clock struck nine;
I think it's a terrible shame!

Mamma is unfair in her treatment—
There is n't a doubt of that truth;
Ruth Jones can sit up quite as late as she wants.
Oh dear! how I do envy Ruth!

They all were so gay in the parlor;
Aunt Gertrude was singing a song,
And Uncle Joe just was commencing to tell
That story he's promised so long!

And Brother Will, home for vacation,
Was full of such capers and fun!
Mamma might have altered that hard rule of hers
For one night, if only for one.

But no; as the clock began striking
I happened to catch mamma's eye.
She first looked at me, then she looked at the clock;
'Twas easy to understand why.

And now I lie here, in the darkness
And silence, so solemn and deep,
And—well, I am drowsy, the least little bit;
There's nothing to do except aloop!

An Unbounded Stomach.

BY REV. CHARLES H. BRIGHAM.

THIS Shakesperian phrase may be variously interpreted, but its literal significance is quite as often illustrated as its metaphorical. The physical appetite as frequently passes its proper bound as the spiritual appetite. Inordinate cramming of the stomach is more common than inordinate ambition, and the London Alderman is the type of a larger class than the great Cardinal Wolsey. There is overwork of the foot, the hand, and the brain, but no organ

of the body, on the whole, is so much overworked as the stomach; of no organ are the powers and capacities so severely tried. When the hand and foot and brain are idlest, the stomach is often kept to the top of its force. The most industrious of epicures are usually the most indolent of men, and they find no time for other duties than those of appetite and digestion. Their social and personal work is all concentrated at the trencher, and the "groan-

ing board" is their workshop. A hard life indeed is the life of one who toils with the stomach, who lives at a first-class hotel, and keeps, as Jack Downing use to say of Doolittle's Tavern, "a Thanksgiving every day." We met some years ago at Fabyan's Hotel in the White Mountains (a comfortable though not luxurious inn) one of the old residents at the Boston Tremont House, a well-known bachelor and epicure, who had never for twenty years from the opening of that sumptuous hotel failed to do his part promptly at its table. He had not, as he said, come up to the White Mountains for any such foolish and tiresome climbing and sight-seeing as that of the ordinary tourists, but only to "rest his stomach." worn by long and excessive toil-to get a short respite in this digestive service.

The stomach is an organ of the body that we do not like to say much about, an organ which we should not think of classing with the features of the face, or with the cunning hand or the persevering foot in dignity and grace. The thought of it to a healthy mind is almost disgusting. Dyspeptics get accustomed to talk about digestion and its instruments, and entertain you with the full details of their gastric and iliac experiences. But healthy men have no taste for this discussion of abdominal sensations, and reject all such talk as morbid and tiresome. In polite society you may discuss the characteristics of the face, the eye, and the mouth, even the contour of the frame, but you must not touch that process upon which all the health and heavty of the body so constantly depend. For the stomach really rules the body and orders all the lines of its grace and strength. It may be as coarse and vulgar and disgusting in its color and habits as the Sultan of Turkey, but it is none the less a despot whose sway is absolute and omnipresent. The stomach is the lord of the brain, and the nerves, and the muscles, regulates the seeing eye, and the hearing ear, and the eloquent tongue, and the nimble fingers. Upon the stomach and its related organs depend the color of the skin, the vigor of the sinews, and the whole physical and spiritual work of the man. It makes by far the larger half of all the soul's heaven or hell here on earth, and no small part of its anticipation of heaven or hell hereafter. The consciousness of sin is measured most accurately by the state of digestion.

The philosopher who fixed the soul in the "pit of the stomach" was not far from the truth, when he considered how much of the spirit's power and the spirit's joy comes from

the stomach's efficiency. More of the wretchedness in the world is caused by digestive troubles than by any other cause, we might almost say than by all other causes together. Fourfifths of all the headaches come from disorder in the stomach and bowels. This fills the air before the eye with those obstinate motes which flit and float so provokingly, and will not be brushed away. This makes that ringing in the ear, which no will can silence. This brings that redness to the nose, so fatal to all beauty of expression. This darkens the ivory of the teeth, and furs the tongue, and swells the lips, and makes the breath an offence. The stomach is responsible when the joints of the fingers thicken, and when gout cramps and agonizes the feet. When looseness seizes the digestive organs, how suddenly the whole man seems to fall in collapse-will, courage, and hope, all to sink before the attack! When there is constriction, how uneasy in every limb, in what misery from head to foot, is the noblest of God's creations! The dignity of human nature is adjourned in the gripings of a bilious colic, and the wretched man, praying to be delivered from the body of this death, envies his dog, who sleeps so comfortably. There is no contradiction more positive to the Unitarian doctrine of man than a deck-load of sea-sick passengers on a pleasure excursion in a channel steamer. Misery and worthlessness find their highest expression in these woe-begone countenances, so full of helpless despair.

The brisk dispute which has gone on in these last years between faith and science, has a fair counterpart in the equally important question of faith and digestion. The stomach is the arbiter of the quality of faith, if not of its quantity. Cheerful piety is not to be expected where the gastric juice does not act freely, and the sincere milk of the word will not be freely taken up when the lacteal vessels of the body are fouled and clogged. We are not to expect any "bowels of compassion," when the peristaltic barmonies are too swift or too slow. Dyspepsia stands in the way of a bright gospel, but predisposes to a faith that finds joy in the terrors of the law. Paul was a radical preacher in telling his young brother to take a little wine for his stomach's sake, more radical than if he had condemned Timothy for his self-distrust. For he knew that many of his own spiritual fears and fightings had come from gastric panga. Those who would reserve piety in the dark ways, and create that process of self-reproach and wretchedness which must usher in the bliss of redomption by vicarious blood, favor the methods which break regular digestion and make the body sick along with the soul. A stomach that is made to offend will bring more ready and more pungent convictions of sin, and send the soul to cry out more passionately for speedy salvation. From the inward parts the cry for deliverance comes; and it may be that Jonah's prayer from the fish was an allegory of a soul suffering from the misery of enteritis.

An organ which is the arbiter of health, of comfort and of faith, is certainly a very important organ, in spite of the low position which it seems to occupy and the shame which we have in speaking about it. It is an abused organ, but not neglected. For this is not only the field in which the epicure works in his daily delights, but in which experiments of every kind are made by wise men and ignorant men. Think of the substances, solid and liquid, on which this patient organ is compelled to try its powers-the doses, gaseous, metallic, fiery, and nauseous-the drugs and powders and hateful draughts, that must pass through this never satiated receptacle. A good definition of the stomach makes it an instrument to test the qualities, the virtue, or the poison of all that is in air, or earth, or water. Hot and cold, laxative and astringent, oil and bark-what infinite variety of substance must this inner physician try upon himself! In the use and "exhibition" of materia medica the despised stomach has distinguished consideration, and the first place. Ipecac and laudanum and quinine are for its sole and exclusive use; and the heroic medical theory is to give the stomach all it can hold. and try it to the extent of its power before the patient dies. Many a doctor has been vexed by the untimely demise of the patient, who has not waited for the full and proper stomach test of the appropriate remedies. A patient with decent respect for his stomach would live until this has exhausted the appliances of the pharmacoposia.

In our time, the old medical notion that the stomach had no rights which a practitioner is bound to respect has given way in some degree, and there are those who believe that a kind treatment of this organ will give it peace and leisure, and that the experiments of imprudent diet and dissipation are bad enough, without the additional harshness of irritants and bitters. The best medical advice now is advice which tells what not to take, what to avoid in ordinary food and drink, instead of the prescription of more nostrums. Quack medicines, indeed, are still in favor, and the poor stomach can never find rest, so long as fresh pills are in-

vented and placarded, and Drake's S. T. X. Plantation Bitters, offer on rocks and walls their cheering invitation. The stomach for some time to come will continue to be a martyr, and to multiply the miseries which medicine brings upon disease. Civilization only adds to the gastric burdens of men. Those who dwell in high-ceiled houses to-day, have more cause to envy the "hard bowels of the reapers," than the satiric poet of Rome; for the means of indigestion are more numerous than ever. Lucullus had his lampreys, but not his ices. The Romans ate bread from fine wheat flour, but did not, that we know, try their stomachs by muffins or mince pies. Dyspepsia will not die out as a disease for want of material to bring it on. All the lectures of dietetic reformers have not simplified the bill of fare of a finished dinner.

It is an encouraging sign, however, that diet and regimen have become so important in modern medical practice, and that doctors are willing to regulate the digestive organs instead of tormenting them, that the previous question of what to eat and drink is allowed to come in before the question of what medicine to take. Too much heed of the stomach is not wise, but the discoveries concerning it are not to be quite neglected. We know much more of the process of digestion than they knew in the former ages, and it is well to make use of our knowledge. We know how related are sound digestion and sound thinking and feeling, and how important it is to keep the alimentary canal in good condition. That hole in the body of the wounded Frenchman, through which the changes of food in the stomach were marked and examined, has let in light not only upon the science of physiolygy, but upon the practical care of health. If the theory that the body can be made transparent by some lotion shall be proved, still more shall we find of the effect of substances upon the stomach, and so become wise unto physical salvation. It is impossible even by the best care to avoid aches and ills of the stomach and bowels. With the simplest diet, they will come in atmospheric changes, in extremes of heat or cold, in the vapors of the sky, or the exhalations from the ground. No one is wise enough to tell how colio comes or how it can be surely kept off.

Rules for the care of the stomach are very abundant in these latter times, and are very rigidly drawn out and carefully laid down by dietetic reformers. In the multitudes of theories it is hard to choose. Some systems are at once comprehensive and concise, and embrace

all that is necessary in a single prescription. Dr. Brandreth concludes all advice in the injunction to take his pills, so many dozen in the week, so many boxes in the month and year. These pills will keep the stomach right and the bowels free; no cancer or colic will vex the entrails of those who use Brandreth's pills. Another has his draught, "sovereign and transforming," that renews day by day the powers of the stomach and strengthens it for its work. A nostrum which does all the work makes other rules unnecessary. But as we have no such nostrum to offer, or any practical knowledge of any thing of the kind and are bewildered in the multitude, we prefer to give some general rules independent of medical experience, rules based upon antecedent prejudice concerning the delicate organs so harshly treated. The finest harmonies of the viol are drawn out upon the stretched entrails of the least musical of nocturnal prowlers. And to a sensitive soul, the rhythm of the digestive movement has a cadence as delicate as the flow of sap in the trees, or the silent circuit of the waters.

The stomach is an organ which can only be reached through the material which is put into it. There is no way of purifying it through any direct action upon its coats or upon the acid which it secretes. You can not treat the living subject as a tripe-maker treats the stomachs of his slaughtered brutes, or put any substitute in the bag for the juice which flows into it upon the food. All rules, therefore, about the care of the stomach must have to do with the ways and substances of eating and drinking. And of these rules some will be negative, telling rather what to avoid than what to use.

- 1. The first reasonable advice is to eat food enough to give the stomach work to do. Many men and women eat too much, as we all know. But there are those also who eat too little, and not a few of them, either. College students, boarding themselves, housekeepers in straitened circumstances, dyspeptics, dreading the pains that follow digestion, often starve themselves. Taking the community through, men and women, old and young, it is probable that quite as many suffer from insufficient food, from the cravings of unsatisfied digestion, as from repletion. While some laborers go to rest "crammed with distressful bread," many who work hard with the brain or the needle, feel, when they lie down the gnawings of wretched hunger. Plenty of food is a first requisite for a healthy stomach.
 - 2. On the other hand, an equally important

advice is not to cram the stomach, not to overload it and give it too much work to do. It should not be forced too far. And occasional cramming is hardly better than habitual cramming. A Thanksgiving dinner is nothing more than penance, if it leave after it the sense of plethora. There ought always to be in the stomach some room, some chance of greater distention. To stretch it to its full limit not only destroys its elasticity, but brings torment to the whole frame. No richness of viand, no temptation of companionship, should ever draw one on to eat or drink any more than the stomach can hold without inconvenience, or can deal with in the ordinary process of digestion. The bound of easy decomposition of food should be respected in caring for the stomach, and not the bound of its possibility as a sack or a storehouse. It should be treated as a machine with nice adjustments, and not merely as a receptacle for the waste material of the satisfied palate.

- 3. Of course, we must add to this the rule, not to put into the stomach any thing that does not belong there, or any thing that will not assist digestion. Opinions differ, indeed, as to what belongs there, and when we speak of food and drink in the clashing of theories, this rule is of the vaguest kind. But there are some things which all will agree to be unfit for the stomach. Stanes ought not to be dropped into it, however light it may be. It is not a proper place for mineral deposits, whether the chalk and slate of female boarding-schools, or the clay which some tribes of Indians eat. A few may swallow the stones when they swallow the cherries, and not find inconvenience, but that habit is dangerous. All indigestible substances that irritate the stomach or are likely to impede the farther process of excretion, are to be shunned. The contents of the stomach should never be piled up within it or below like a "fenced wall." Gentle excitements are better in that organ.
- 4. And this suggests another advice, to areid stimulants as far as possible, all that urges the stomach to work beyond its strength, or will leave a reaction of weakness. A little wine may be taken for the stomach's sake, but alcohol in any form, is one of the worst enemies of the stomach, as of the brain and the soul. Spices and condiments, too, are to be introduced with great caution, and their character carefully inquired into, before they are allowed hospitality. An influence which rouses the stomach to passion, or heats it with untimely rage, is a bad influence. The stomach is properly conservative in its method, prizes the "ordinary means of grace," and does not thrive in "revi-

vals." Its heat should be steady and gentle not the heat of irritation or fever.

- 5. Regular habits, times, and seasons are another mest important rule for this organ. Its caprices ought to be checked, and its times appointed. It ought not to be allowed to work fitfully, but to know when its work is to be done, at morning, noon, or evening. stomach ought not to be turned out of its regular ways, because it has such large capacity, or to be compelled to begin a new task before that which it has in hand is finished. Let it rest awhile from its present duty before you put upon it another of the same kind. The order of an ocean steamer, where the stomach has no rest, in the succession of collations, meals, and lunches, from dawn to midnight, is not the proper order of any wise household.
- 6. The health of the stomach, as of all other bodily organs, is promoted by vigorous and judicious exercise of the muscles. But it is still necessary to counsel moderation in exercise when the stomach is full, or when it is entirely empty. One ought not to run a race after a

hearty dinner, and a walk of ten miles before breakfast is a fanaticism which the prudent will shun. Exercise ought to be timed and bounded so as to aid the stomach in its operations. The after-nap may be of doubtful utility, but the habits of other animals, who rest when they have eaten, are an indication of what is wise for the lord of creation.

We might add to these rules several more, especially that important rule which would have the conduits of the stomach clear, and a passage kept open always for its waste and refuse. There are rules for the bowels, on the observance of which very much of the comfort of human life depends. But this would open a large subject, suited perhaps to another more medical style of essay. The bowels, the liver, the kidneys, even that mysterious organ, the pancreas, all are to be heeded in a complete survey of digestive duty and function. We refer for the consideration of these to the works of physiology and hygiene, so complete and admirable, which these last years have multiplied.

Growth and Development.—IX.

BY ARCHIBALD MACLAREN, OF THE OXFORD GYMNASIUM.

THE TRAINING OF PRUSSIAN AND FRENCH SOLDIERS.

THE Prussian soldier's period of service is so short (three years) that every agent to hasten his efficiency must be seized; and it has been found necessary to provide means, in the shape of large buildings resembling ridingschools, in which drill may be carried on throughout the year. And as this gymnastic system is viewed but as drill, aims but in being drill, it is, in winter, carried on in these buildings, the few articles of apparatus employed, for the sake of the advantages which they specially offer to the soldier, being erected in a corner of them. And this continuity of practice increases manifold whatever good it can yield; and thus, meager and inadequate as it is, its fruits are valuable. It is found that no other form of drill* so rapidly converts the recruit into the trained soldier, and the greatest importance is attached to its extension throughout the army.

There is a general impression that this sys-

tem forms the basis of the French. It would be difficult to make a greater mistake; for not only have they, either in principle or practice, nothing in common, but in many respects they are the very antithesis of each other. So far from the boasted "simplicity" of the Prussian system, and the desire to limit it to "a few exercises to be executed with great precision," being adopted by the French, they have elaborated their system to such an extent that it is difficult to say where it begins or where it ends, or to tell what it does, but what it does not embrace. For quite apart, and in addition to, an extended range of exercises with and without apparatus, it embraces all defensive exercises, with bayonet and sword, stick, foil, fist, and foot, swimming, ` dancing, and singing, reading, writing, and arithmetic, if not the use of the globes. The soldier is taught to throw bullets and bars of iron; he is taught to walk on stilts and on pegs of wood driven into the ground; he is taught to push, to pull, and to wrestle; and although the boxing which he is taught will never enable

^{*} See August article.

him to hit an adversary, he is taught manfully to hit himself, first on the right breast, then on the left, and then on both together, with both hands at once; and last, but not least, he is taught to kick himself behind, of which performance I have seen Monsieur as proud as if he were ignominiously expelling an invader from the sol sacré of La Belle France. Now I know no particular reason why a soldier should not be taught all these acquirements, and I know many important reasons why he should be taught some of them; but it would be difficult to assign any reason, either important or particular, why they should be called Gymnastics, or be included in a system of bodily training.

The fundamental idea of the French system is sound, for it embodies that of preparation and application; it is primarily divided into two parts-Exercices Élémentaires, and Exercices d'Application. The first of these, designed to be a preparation and prelude to the instruction and practice on the fixed apparatus, begin with a long series of exercises of movement and position, propres à l'assouplissement. What is this all-important process of assouplissement-this idea, shared at home as well as abroad, by civilian as well as soldier, of the necessity of suppling a man before strengthening him? What is it to supple a man? What parts of him are affected by the process and what change do they undergo? It would be very desirable to have these questions answered, because want of suppleness is a common subject of complaint, and though often caused by apparently different processes has really but one origin.

To ascertain the full meaning of a word or phrase, it is sometimes useful first to ascertain its opposite or antithesis; and the opposite of to be supple is, I think, to be stiff. If any one is in doubt as to what that means, let him take a day's ride on a hired hack along a ccuntry road, or, for the space of a working day, perch himself upon an office-stool, and the results will be identical and indubitable-stiffness in the column of the body and in the lower limbs. And why? Because each and every part so affected has ben employed in a manner out of accordance with its natural laws. The joints, which are made for motion, which retain their power of motion only by frequent motion, have The muscles, which been held motionless. move the joints by the contraction and relaxation of their fibers, have been subjected to an unvaried preservation of the one state or the other-the muscles of the trunk in unremitting contraction, those of the limbs in effortless relaxation. Now, one of the most important of

the laws which govern muscular action is, that it shall be exerted but for a limited continuous space, and that, unless the relaxation of the muscles shortly follows upon their contraction. fatigue will arise as readily, and to as great an extent, from want of this necessary interruption to contraction as from extent of effort. And, strictly speaking, this stiffness both in trunk and limbs, although arising from two opposite states of muscular employment, results from the same cause, i. e. exhaustion; each has had one only of the two essential conditions of muscular action, that one being therefore in excess. The stiffness in the trunk of the body is caused by the ceaseless contraction of the muscles, and this state is not conducive to the rapid local circulation indispensable to the reproduction of the force expended. The opposite phase of stiffness, arising from continuous muscular relaxation, is the immediate result of causes which may be called negative-the non-requirement of nervous stimulus, the non-employment of muscular effort, entailing subdued local circulation.

The second cause of this stiffness in the trunk of the body and limbs is, that the joints have been held motionless. Viewing the joints in the familiar light of hinges, we know that when these are left unused and unoiled for any length of time, they grate and creak and move stiffly; and the hinges of the human body do just the same thing, and from the same cause; and they not only require frequent oiling to enable them to move easily, but they are oiled every time they are put in motion, and when they are put in motion only; the membrane which secretes this oil, and pours it forth over the opposing surfaces of the bones and the overlying ligaments, is stimulated to activity only by the motion of the joint itself.

But, it may be argued, stiffness may arise from extreme physical exertion, which has embraced both conditions of muscular action, with frequent motion of the joints, stiffness such as a man may experience after a day of unwonted exercise. The stiffness in this case, also, is simply temporary local exhaustion of power from extreme effort; the demand suddenly made has been greater than the power to supply—the waste greater than the renewal.

Stiffness, therefore, appears to be, first, a want of contractile power in the muscles which move the joints; and secondly, a want of power in the joints to be moved. It may be temporary stiffness, arising from exhaustion of the parts by extreme or unnatural action, as in the illustrations just given; or it may be permanent stiffness, arising from weakness of the parts, caused by

insufficient or unsuitable exercise; but the nature of both is identical. It is lack of functional ability in the parts affected.

To supple a man therefore is, first, to increase the contractile power of his muscles; and secondly, to increase the mobility of his joints. And as the latter are moved by the former—can only be moved by the former—all application for this purpose is made through them.

Now, even although mere movements and positions were altogether adequate materially to develop the muscular system-materially to add to its contractile power, there is a still greater drawback than mere insufficiency in their effect upon the joints; and that is, in the danger of straining, and otherwise weakening the inelastic ligamentary bindings. For every effort of mere position has the simple and sole effect of stretching that which, from its organic structure, object, and place in the human body, is not stretchable—is not intended to yield. To recapitulate: all exercises of mere position act directly on the joints, instead of acting on them through the muscles. Such exercise is, therefore, addressed to the wrong part of the body; it is addressed to the joint, when it should be addressed to that which moves the joint. It is the old and exploded treatment of disease revived for the treatment of an abnormal physical condition—subduing the symptoms instead of waging war with the cause.

The other exercises in this first division of the French system—even if they were valuable, even if they were capable of being classified under any distinct head, or arranged in any progressive order, or admitted of graduated instruction and practice—are entirely out of place here, because from their nature they court and incite to inordinate effort. It needs no argument to prove the inconsistency of directing that men, sitting or standing, hand to hand, or foot to foot, singly or in batches, shall strain and strive against men, lift cannon-shot and hold them out at arm's length "as long as possible," or sling them to their feet to cast them to a distance "as far as possible," before they are allowed to put hand or foot on an ordinary ladder inclined against a wall, or to walk along a plank raised a foot or two from the ground. It needs no argument to show that this is reversing the order of exercise when measured by the amount of effort required for its performance.

The second division of the system, consisting of applied or practical exercises (Exercises d'Application), embraces a very extended series, to be executed on a wide range of apparatus; and it may be broadly stated that all these exercises

are valuable in either an elementary or a practical aspect—that is, either as they are calculated to cultivate the physical resources of the man, or as they may be applied to the professional duties of the soldier. I repeat, that the exercises of this division of the system are intrinsically valuable in one or other of these aspects; but it must ever be viewed as a grave error, that, so far from the special aspect of each being designated, so far from their being separated and grouped, each under its proper head, they are all retained under one head, under the single designation of "Practical Gymnastics."

The evil which naturally and inevitably springs from this want of arrangement is the undue importance which it gives to all exercises of a merely practically useful character, above those whose object is the training and strengthening of the body. This is emphatically the case in the earlier stages of the practice, where the whole attention of the instructor should be devoted to the giving, and the whole effort of the learner should be devoted to the acquiring of bodily power. Increase the physical resources first, and the useful application will follow as a matter of course. A pair of strong limbs will walk north as well as south, up hill as well as down dale—the point is to get the strong limbs.

Let not this principle of classification be undervalued. The question of "What's the good of it when I've done it?" is one not unheard in the gymnasium, and one not always easy to answer; and even could you be at all times ready with a physiological explanation of motive, process, and result, your questioner is not always a man who could understand it, and the difficulty is increased manyfold when the exercise questioned has place among others of the practical value of which there can be no question. But such classification gives at once the answer: "It is of no use at all as a thing acquired; but if you should never do it or see it done again in all your life to come, it has served its purpose; for you are altered, you are improved, you are strengthened, by the act and effort of learning it."

But men so intelligent as those who are intrusted with the administration of the French system, have perceived the propriety of a special application of the exercises practiced at the close of the course of instruction. And, therefore, to the bona fide exercises of the system are added certain practices in which the men are employed in "storming works," and in undergoing an examination of their general proficiency.

The Therapeutics of Flogging.

BY E. P. EVANS.

THAT the rod is highly conducive to moral and spiritual edification, is accepted by very many as one of the clearest and most unquestionable of truths, corroborated at once by human experience and divine revelation. Solomon's maxims in reference to chastisement have been held in honor in all ages, especially by pedagogues, who have taken good heed that the children committed to their charge should not be spoiled, if a fundamental application of straps, or birches, or palms (of the hand) possessed any preservative power. There is a tradition that even Homer was flogged by a schoolmaster named Toilus; Horace tells us what severity was practiced by his teacher Orbilius Pussillus, and the poet Martial, who lived near a schoolhouse, complains that the quiet of his morning hours was seriously disturbed by verberations and reverberations in the most literal meaning of these words. Quintilian, however, denounces this severe discipline on account of its degrading effect upon the youth; and Plutarch, in his treatise on Education, declares it to be his opinion that exhortations and discourses are better impulses to the pursuit of liberal studies than blows and stripes. "For the latter." he says, "are methods of incitement far more suitable to slaves than to the free, on whom they can produce no other effect than to induce torpor of mind and disgust for exertion, from a recollection of the pain and insult of the inflictions endured." It is related of one ancient philosopher that he was so firmly convinced of the necessity of thorough whipping to rapid progress in knowledge, that while pursuing his studies he inflicted upon himself, periodically, the severest castigations; and readers of French comedy will remember how M. Jourdain, in his ardent desire to be "a gentleman and a scholar," exclaims to Madame Jourdain, "Would to God that I were whipped this very moment before all the world, and knew what is learned at college."

A statistical pedagogue of Suabia, in a retrospect of his fifty-one years of active life as superintendent of a large school, records with complacency that he had administered during that period 911,500 canings, 121,000 floggings, 209,000 dark-room incarcerations, 136,000 strokes with the ruler, 10,200 boxes on the ear, and 22,700 forced tasks. Incidentally, too, he had

made 700 boys stand with peas in their shoes, 6,000 kneel on the sharp edge of a stick, 5,000 wear the fool's cap, and 1,700 hold the rod in token of disgrace. Here we have

"A schoolmaster of the good old school, Unto whose ears no sound such music seems, As when a bold, big boy for mercy screams."

Indeed, the scourge was considered so essential to scholarship, that it was necessary to punish princes vicariously, by providing so-called "whipping-boys," on whose persons the offences of the young and tender scions of royalty were unsparingly visited. Thus William Murray was whipping-boy to Charles I., and Sir David Lindsey sustained the same delicate relation to James the Fourth of Scotland. In a play published in the first part of the seventeenth century, the following dialogue occurs between a prince and his whipping-boy named Browne:

Prince—"Why, how now, Browne; what's the matter?"

Browne—"Your grace leiters, and will not ply the book, and your tutors have whipped me for it."

Prince—"Alas, poor Ned! I am sorry for it.
I'll take the more pains and entreat my tutors
for thee."

A good story is told of Richard Mulcaster, who several centuries ago was in the habit of indorsing the precepts of the wise king upon the ingenuous youth of England. One day as he was about to inflict punishment upon a pupil he paused awhile, and there, according to the chronicler, "a merry conceit taking him," he said: "I ask the banns of matrimony between this boy on the one side and Lady Birch on the other side; and if any of you know lawful cause or impediment why they should not be joined together let him speak, for this is the last time of asking." Thereupon a good sturdy boy and of quick wit stood up and said: " Master, I forbid the banns?" "Yea, sirrah, and why so?" exclaimed the master. "Because both parties are not agreed," was the answer. The old pedagogue, who enjoyed the joke, admitted the validity of the objection, and pardoned the fault of the one pupil and the presumption of the other. Perhaps in no country in the civilized world is the rod so freely and so

vigorously used for the purposes of scholastic and domestic discipline as in England. Even a man so refined and progressive as Dr. Arnold wrote a "Dissertation on Flogging," in which he eloquently and enthusiastically favored the practice. The French Commissioners expressed their surprise to find prevalent in English schools a kind of punishment which in France is confined to children in the nursery, and came to the conclusion that "the rod is one of those ancient English traditions which survive because they have survived. A foreigner can hardly conceive the perseverance with which English teachers cling to this old and degrading custom. . . . One is astonished at seeing English masters remove a garment which the prudery of their language hesitates to name." A master in the High School of Edinburgh, named Nicol, used to whip his pupils by the dozen or score. When he had a full list made out and all things were ready, he would send a polite invitation to his friends to "come and hear his organ." After the arrival of the persons invited, he would go up and down the row and by a succession of rapid strokes, call forth a variety of tones from his victims. flagellations were given not always for corrective or therapeutic porposes, but often as a preventive or prophylactic, to inspire a respect for authority and to stimulate the faculties. The memory has been commonly supposed to be especially susceptible of being strengthened in this manner. It was the custom in France to whip up the children on the morning of Innocents' Day, in order "that the memory of Herod's murder of the innocents might stick the closer;" and difficult problems were thought to be more firmly and permanently impressed on the mind by having the solution written in legible characters on the body. It was usual also, in many countries in Europe, for the nurses or "bairnswomen" to slap the limbs and especially the hips of their youthful charges, affirming that the practice was wholesome for the little ones, inasmuch as it tended to develop and harden the flesh and invigorate the skin.

A recent English writer speaks of the use of the rod in Russian baths. The bath consists of a large but rather low room, provided with an immense oven, several rows of benches at different stages of elevation, and a large tub of water. When the oven is glowing hot, water is thrown on it from time to time, until the apartment is densely filled with vapor. Among the essential requisites of the bath are bunches of birch twigs, which are cut in the spring season and tied together with the leaves on so as to form bathing whisks. Before being used they are made soft and flexible by being dipped into water. With this bunch of twigs the body of the bather is well flogged all over, after being scalded and rubbed. Mr. Stephens, in his "Incidents of Travel," thus narrates his own personal experiences: "At Moscow, riding out to the suburbs, the drosky-boy stopped at a large wooden building, pouring forth steam at every chink and crevice. At the entrance stood several half-naked men, one of whom led me to an apartment to undress, and then conducted me to another, in one end of which were a furnace and an apparatus for generating steam. I was then familiar with the "urkish bath, but the worst I had known was like the breath of the gentle south wind compared with the heat of this apartment. The operator placed me in the middle of the floor, opened the upper door of the stove, and dashed into it a bucketful of water which sent forth volumes of steam like a thick fog into every part of the room, and then laid me down on a platform about three feet high, and rubbed my body with a mop dipped in soap and hot water from my head to my heels, long enough, if the thing was possible, to make a Blackamoor white, then gave me another sousing with hot water, and another scrubbing with pure water, and then conducted me up a flight of steps to a high platform, stretched me out on a bench within a few feet of the ceiling. and commenced whipping me with twigs of birch with the leaves on them, dipped in hot water. It was as hot as an oven when he laid me down on the bench; the vapor, which almost suffocated me below, ascended to the ceiling, and finding no avenue of escape, gathered round my devoted body, fairly blistering and scalding me; and when I removed my hands from my face, I felt as if I had carried away my whole profile." The writer then describes at some length how, although burning, scorching, and consuming, he made determined efforts to hold out to the end. Finally, in his extreme of agony, he cried out to let up, but unfortunately his tormentor did not understand a word he said, and seemed resolved not to release him until he had done his whole duty by him, and so kept on thrashing him harder and harder with the tunch of twigs, until in utter desperation, Mr. Stephens sprang off the bench, knocked his tormentor down and made a rush for the door. But even under such disadvantages, the faithful Slavonian, fully bent upon doing the whole task as prescribed, hurried after his fugitive and dashed over him a tub of cold water which seemed to hiss as it came in contact with

his hot body. "At that moment," concludes Mr. Stephens, "I could imagine the high satisfaction and perfect safety in which the Russian in midwinter rushes from his hot bath and rolls himself in the snow. The grim features of my tormentor relaxed as he saw the change which came over me. I withdrew to my dressingroom, dozed an hour on the settee, and went out a new man." In a volume just issued by John Camden Hotten, in London, many strange things are related touching the medical virtues of the rod; some physicians recommending it in special cases, as a means of reanimating the torpid condition of the capillary or cutaneous vessels, increasing muscular energy and endurance, promoting absorption, and giving a healthful activity to the secretions; while others regard it as a universal specific which neutralizes all morbid elements in the animal system by stirring up the stagnating juices, dissolving the precipitating salts, purifying the coagulating humors of the body, clearing the brain, purging the belly, circulating the blood, and bracing the nerves.* Asclepiades, a physician, who acquired great popularity at Rome about a century before the Christian Era, and first divided diseases into acute and chronic, maintained as corollaries to his philosophic doctrine of atoms and pores, that all morbid states are due to an obstruction of the pores, or a disarrangement and irregular distribution of the atoms; as a means of opening the former or readjusting the latter, he prescribed judicious and systematic flagellations. It is also significant, as a proof of his shrewdness and discretion, that he denounced the use of powerful medicaments and drugs, and relied upon dietetic and gymnastic remedies and the healing power of nature (vis medicatrix naturæ) to cure the Of course he was tabooed by the patient. regular practitioners of orthodox medicine, but even the much-prejudiced Pliny confessed that he was greatly loved by those who employed him, and performed some remarkable cures. A modern doctor of the old school admits, too, that he "possessed a considerable share of acuteness and discernment." More than a century later the distinguished Aurelianus strongly recommended flogging as a cure for madness; accordingly he ordered maniacs to be disciplined with rods, partly to counteract certain constrictions or relaxations in their bodies, and partly (to use his own not very clear lan-

guage) "that their understandings, being, as it were, quite banished, they may come again to their senses." In modern times, also, the same treatment was fer a long time applied to the insane, before the efforts of enlightened and humane persons succeeded in abolishing it. There are, however, many cases on record in which "bodily exercise" of this kind has been found to be the most speedy and efficient means of appealing to the better judgment of the patient. An instance of this sort was the hypochondrise, who could not be argued out of the notion that his legs were made of straw, until an impatient maid-servant struck him with the broom-stick across the shins, an abrupt and rather perfunctory method of arguing the question, but more persuasive in bringing the man to a sense of his erroneous impression than the most subtle logic of the doctors had been. Dr. Millingen, who had charge of a military lunatic asylum, was once obliged to resort to corporal punishment in the case of an inmate who had repeatedly attempted to take his life, and "who fully remembered every circumstance in the remissions of his malady." The cure was found to be very effective; and we would be heartily glad to see it vigorously applied to those wretches who drive their wives to despair by persistent brutality, and then go mad just long enough to murder any one who through accident or sympathy chances to step between them and their victims. We believe that, as a general rule, the poorest use that one can put a man to is to hang him; but in cases like the one just mentioned, the sharp and wholesome remedy of flagellation, followed by confinement in a strait-jacket, would be by no means out of place, and would prevent the too frequent recurrence of such frenzies. The feigning of diseases. especially epileptic fits, to which cowardly soldiers are sometimes subject on the eve of a battle, has been radically cured by the discipline of the lash. The same treatment has been found valuable as a remedy for constitutional laziness. A country doctor in Iceland, is said to have prescribed for a mechanic who suffered from a species of indolence, which was chronic in quality and acute in quantity, the following heroic dose: "Let the patient be sewn up in a sack stuffed with wool and then be dragged about, rolled down hill, thumped, kicked, and jumped upon by his friends and acquaintances; when he has emerged from the sack, let him take a draught to open the pores and then go to bed." But to be effectual, the prescription must be thoroughly administered; for, as a quaint old author says, "To stir up the humor, and not to

^{*}See Rev. W. M. Cooper's work, Chapter XXII, on "The Reputed Curative and Medicinal Powers of the Rod," to which we are indebted for many facis collated from the most various and recondite sources.

purge it, doth often more harm than good." Galen, whose authority is second only to that of Hippocrates, "the father of medicine," commends the liberal use of the rod as tending to promote fatness and embonpoint, and cites the case of a slave-dealer, who fattened a boy in a short time by adding to his usual rations of food a moderate daily castigation. Antonius Musa succeeded by a lively application of twigs to the part affected, in curing the Emperor Augustus of rheumatism in the hip, after he had suffered many things from other physicians; as a reward for his skill, he received a gold ring and a large sum of money from the Emperor, and had a statue erected to him by public subscription. One of the most original thinkers of the seventeenth century, Thomas Campanella, alludes to the admirable cathartic effect of flagellation upon the abdomen, and mentions instances in which it was successful when all potions of "your drugging doctors" (as Ben Jonson characterizes them) failed to bring relief. At one time urtication or whipping with nettles was in high favor, and was practiced in eruptive diseases for the purpose of helping the full development of them. paralysis it is thought to be better than any other kind of stimulating friction, and a recent writer regrets that it has fallen into disuse. Its effects are less deep and permanent, but more generally diffused than those of blistering. Baron Corvisart-Desmarets, physician to Napoleon I, employed it with success in a case of obstinate lethargy. The patient during the urtication "would open his eyes and laugh," but would relapse into profound sleep as soon as the action of the stimulus ceased. In three weeks, however, he was perfectly restored. the suggestions of medical writers in reference to flogging as antidote for love we shall not speak here, since it would lead us too far into the subject of flagellation as a subduer of passions, and open the broad fleid of monkish disciplines and religious castigations. Besides, if we are to be chastised for this amiable infirmity. "who shall 'scape whipping?" The cure of lockjaw and choking by blows on the face or back, can not, strictly speaking, be called therapeutic, since it is a purely mechanical agency; not so, however, the treatment of fevers by flagellation, which is mentioned by ancient writers, and the cure attributed to a dissolution and dissipation of the viscid bilious humors by the warmth and motion thus excited. The question as to what portion of "the human form tlivine" it is safest and most expedient from a physiological point of view to inflict

punishment upon, we may not discuss in the present paper, but will only remark that the weight of opinion is favorable to what is called "the lower discipline" or deorsum disciplina, in distinction from "the upper discipline" or sursum disciplina, which consists in bestowing the blows on the back and shoulders. The facts which have been adduced and which might be indefinitely multiplied, suffice to show that among all nations and in all ages there has been not exactly "an indistinctive yearning of the human heart" after the rod, but rather a profound and widely provalent confidence in the therapeutic virtues of flogging. Whimsical and absurd as have been many of the special forms and phases which this belief assumed, they were all vague indications and dim foreshadowings of the modern Movement-cure. The physicians of antiquity observed the same curative effects of slapping, percussion, etc., that are now seen every day in the operations of the Movementcure; but they went on in random experimentation, hitting or missing with their blows as the case might be, and neglected to sift and systematize the phenomena and derive from them some general principles. The result was that what they knew remained without form and void, a mere mass of mingled facts and fictions; for it is only by getting itself organized that knowledge becomes science. Thus the vagaries of alchemy preceded the science of chemistry; astrology with its extravagant pretensions tyrannized over the imaginations of men for centuries before it sobered down into sedate, mathematical astronomy. The same preliminary vagueness and vagabondage have marked the progress of philology, social science, and political economy. The two last mentioned sciences are still in a state of crude and erratic transition, if we may judge from the incoherent and contradictory theories of prominent publicists. In like manner, the efforts so long and perseveringly put forth to heal the ills of the flesh, and to minister to minds diseased by the practice of periodical flagellations, are to be regarded as obscure and uncertain gropings after the great principles of therapeutics embodied in Kinesipathy and the Movement-cure.

"For myself," said the great Spinoza, "I am certain that the good of human life can not lie in the possession of things which, for one man to possess, is for the rest to lose, but rather in things which all can possess alike, and where one man's wealth promotes his neighbor's."

Things, Not Thoughts.

BY F. B. PERKINS.

IN the year 1870, and in the United States of America, the most hopeful pursuits to choose are those that deal with things. Thoughts, if they come; thoughts afterward; thoughts, if they prove valuable; but things first, for they are the ground, and basis, and support, and reality of thoughts. Deal with thoughts, therefore, when you can, if you can, as much as you can, as well as you can; but work at things first, last, and all the time.

I am far from meaning by this, the advice that a certain well-known person always administers to applicants. Mr. Greeley's social Brandreth's Pill is, "Go dig." It would really be a beautiful experiment to take absolutely away his own means of living to-day, and plant him, with "what he knows about farming" in the country, without one cent, and with neither future nor hope, except such as he could rend out of the earth or off its surface, with hoe, axe, plow, and scythe. Probably he would argue that he is too old, that his life has unfitted him for such work, and so forth. No doubt, and the same is true of a large share of those he doses. Such quackery is likely to help a few, and sure to harm a good many. Mr. Greeley's advice omits entirely to consider that "people differ."

Yet, as in all errors of importance, there is a seed of truth in this unwise advice. It is, that there is more demand here, and now, for handling Things, than Thoughts. People often inquire, "How is it that English writers and scholars are more thorough, finished, cultivated and effective than American?" The reason is Leisure, accumulated wealth, accumulated learning, ancient institutions, a country comparatively finished and filled in material respects make it possible to be a better scholar, a more cultivated writer, in England than in America. We have not finished and furnished America yet. When our estate is all under cultivation, and when our house is built, we will finish and furnish it—not by comparison with any other, but in a style beyond any comparison.

Meanwhile, what are the forces that stand outside of a young man's mind and call to him, "Enlist with us?" They are Earth, Water, Forests. Not the thin, dry voices of the study and the court, nor the hard, sharp voice of retail trade. The great Forces of the Universe—deep

and rich, inexhaustible, infinite, splendid beyond all romance, stronger than any thing except God who made them—those are the voices whose invitations are to-day loudest and most hopeful to young Americans.

I know of more than one instance where, fifty or seventy years ago, persons of a strong natural gift for some mechanical pursuit, cut the throat of their only proper future, and suicided themselves into ministers or lawyers, because these callings were so respectable. There's very little such nonsense as that at present, however.

"But this is all generalizing. What is a good business for me to follow?"

My dear sir, I don't know who you are. There is no difficulty, however, in explaining more particularly what I mean. Whether you have the requisite gifts, is another question. The pursuits I mean are: Civil Engineering, Mining Engineering, Mechanics, particularly the machinist's business, and, in a somewhat less degree, Architecture, Applied Chemistry.

For the two former occupations there are good preparatory schools, and so there are for the last. A mechanic or machinist must, however, learn his trade by working at it—a very costly and wasteful method for any one who means to be any thing better than a journeyman. And to be an architect, one must save a sort of apprenticeship with some other architect.

The ignorant and moneyless foreigners who pour into this country from Europe on one side and Asia on the other (showing plainly enough, by the way, where the middle of the world is), may be left to obey Mr. Greeley. They will, for dig is all they can do. They are the proper persons to use spade, pickaxe, and drill, hoe and scythe, and axe and cradle; to lift and haul and carry. Not that I would have them remain such. If our American civilization can maintain itself, they will not. Our schools and freedom will lift their children into a higher grade of life. Such drudging is a curse. No wonder that active brains hate it, and intelligent minds desert it.

There is every year a greater demand for men who know how to use economy, certitude, skill and speed in building good railroads, in opening and conducting mines, in erecting houses to live in, and factories and mills to work in; in constructing machinery to plow, to sow, to mow, to reap, to thresh, to carry. There is a like steadily increasing demand for men who can make acids and colors, salts and alkalis; who can smelt ores and work the metals that come from them.

Such pursuits have about them a quality of even poetic and ideal greatness and splendor, never yet clothed in poetic forms, and possibly never to be so. But to rule men as a successful superintendent must do; still more, to lay hold of the immeasurable forces of the elements, and, by quiet, wise handling, tame and form them into the means of life and comfort and happiness, are vocations to fill an ambition as lofty and as broad as any vocation whatever.

I do not despise dirt and agriculture, however. No dirt, no victuals. No dirt, therefore, no life. Agriculture is the very base, the indispensable underpinning, not only of life itself, but of all that makes it beautiful and desirable, leisurely and free, cultivated and thoughtful and happy. No dirt, no cleanliness even. For it is the wise agricultural development of the productions of diet, that brings to pass, among all the rest of civilization, bath-rooms, towels, and physical purity. I am far from despising agriculture. But I want all of the drudgery of it done by beasts and machinery as soon as possible; and until then, by that part of human beings who would otherwise be doing something worse. I don't want to cut blocks with a razor.

Trade and commerce, again, are not intrinsi-

cally, and as compared with the productive callings, of noble tendency. Whatever the trader . or the merchant makes, is not so much earned by himself as sliced off from the earnings of the two others—the producer and the consumer. He stands between, he takes from the one and hands to the other, and for the convenience he takes all he can get. If the factories in England do the work for the customers in Wisconsin, Wisconsin must pay for the goods, for their shipment, for the voyage three thousand miles, for an unloading, a cartage, a reloading, and another shipment of seven hundred miles. It costs! The more trade the less goods, because the more money is gone in handling and hauling them.

To end pretty nearly where I began: A desirable life should furnish a hopeful outlet for thought-activity. One of the least agreeable features of a farmer's life to the American, with his vivid, active brain, is the fact that when he has done justice to his farming day's work he is too tired to think. But the occupations I have been recommending, while they keep the worker close to the actual creation, and promise plenty of health and strength in mind and body, are at the same time of a nature infinitely instructive and suggestive, and by their own natural course must needs supply inexhaustible food for thought, and for thought of the most practical, powerful, beneficial kind. It would be easy, I believe, to prove that the inventor in applied science is the thinker of highest possible grade -the nearest of all thinkers to an actual creator. But that is mental philosophy.

The Phrenology of Charles Dickens.

BY PROF. L. N. FOWLER.

BOUT thirty years ago, in the town of Worcester, Mass., I had an interview with the late Charles Dickens and examined his head, marked off the organs, and wrote out his character and published it at the time. It may be of interest to many at the present day to know what Phrenology would say of his organization. Neither his body nor brain were large in size, but medium; yet the quality of both was of the highest order. He had a compact, condensed, and concentrated organization, with a predominance of the nervous or mental and muscular temperaments, and he was characterized for activity, industry, and elevation of

mind, for all the superior organs and functions of the body and brain predominated. The lower, animal, powers were only sufficiently vigorous to meet the demands of nature, without giving him any of those strong animal impulses and passions that characterize some men; hence, he was under the control of his higher powers, and was not obliged to spend much time or energy in combating passions and base desires. The vital temperament was not so well developed as the mental temperament and nervous forces. His muscular and osseous systems were favorably developed, but concentrated, like the feminine rather than the muscu-

lar type. His brain was comparatively full in all its parts, but more prominently developed in the superior part of the frontal lobe and in Benevolence than in any other part. He had too much imagination to be a dry, abstract philosopher, and yet he had too much philosophy to be a dry, practical, scientific man, dealing only in facts in a dry way. He had large Eventuality, with large perceptive powers, but these were guided by the reasoning faculties and the sentiments, inclining him to look after the higher and more perfect works of creation, and to understand character in its endless variety of phases; for few men were more close observers of mankind than he was, and he remembered what he saw and could communicate it to others most minutely and truly to the life. He excelled in language, and had a very large organ of Language. His eye was very full in development, and the expression of it was clear and intelligent. Scarcely any one else but Shakespeare could use as many words intelligently to communicate his ideas as he could. Order was very large, as seen on the corner of the eyebrow. giving him power to arrange, systematize, and work by rule. This faculty had very much to do with his success in presenting his efforts to the world in so successful and attractive a manner, and in thus arranging his stories he was enabled to make the most of them. Causality and Comparison were both very prominently developed, giving him thoughts and opinions of his own, and disposing him to present his ideas in his own way, and enabling him to analyze, classify, describe, discriminate, compare, contrast, and fully illustrate his ideas. His head showed large Mirthfulness and Agreeableness. These faculties disposed him to take mirthful, playful, youthful, and ludicrous views of subjects; to ridicule, make fun, excite mirth, and address himself to the young, jolly, elastic, buoyant, healthful mind, giving elasticity and sprightliness to all he said and did. His Ideality and Sublimity were large, as seen in the hight and width of his head above his temples. These qualities enabled him to embellish, magnify, spin out, beautify, elaborate, and even create imagery for the occasion, and would have made him a poet, if he had devoted himself to writing poetry. Dickens excelled most writers in his power to present his ideas fully, clearly, and to the life. Benevolence was very large, as seen in the fullness and hight of the front portion of the top-head. This quality of mind mellowed his whole character, and imbued all his writings with "the milk of human kindness." His most bitter and sarcastic things amused

while they stung. He lived and labored for the good and the happiness and improvement of the race. If angry, it was in a just cause. If he wounded, it was to remove a tumor. Cautiousness was large, and Acquisitiveness and Secretiveness were full. Their combined action aided to give sufficient prudence and worldly wisdom, so that he did not labor for naught, nor did he squander the result of his labors. His Veneration was not large. He cared little for ceremony, past usages, or conventionalities. Spirituality and Hope were well developed, and aided to give him sentiment, emotion, faith, power to present marvelous or spiritual views of subjects; to describe disembodied spirits or immaterial subjects, and to talk, write, hope, and plan as though there were another life and a future existence. Conscientiousness was large. as seen in the hight and width of his head above the center of the parietal bones, and on both sides of Firmness. This quality of mind gave him a consciousness of obligation, sense of duty, and stimulated him to lead a consistent life. Firmness was quite prominent, giving perseverance, though not great obstinacy and stubborness. He could be influenced by reason or duty. Self-esteem was not large. He had only the dignity and pride that came from his intellectual and moral consciousness of his own importance. He was naturally progressive and democratic. Approbativeness was large, and rendered him sensitive, polite, affable, mindful of appearances, ambitious to excel and to do his best. His social brain was large, and had a decided influence over his character and actions. He took a social domestic view of life in all his writings. His natural appreciation of woman was great, and he had strong love and was capable of appreciating female society, but his animal impulses as a class were not predominant. His life, as a whole, was under the guidance of his moral and intellectual faculties. His writings appealed to the higher rather than the lower powers of the mind, and it seemed to be his strong desire to remove some of the absurdities and lumbering machinery of society His wit was used to ridicule evil, and his imagination to show off extravagantly the absurd notions and foolish superstitions existing among intelligent men. His sympathies were always with the poor, and it was his greatest delight to benefit the distressed and downtrodden. When Charles Dickens commenced his public career schoolmasters were tyrants, and treated their pupils as though they were guilty because they were ignorant, as if they were subjects to beat rather than to teach-subjects upon which to

vent a domineering spirit, to hate rather than to love. He found the court-proceedings full of old fogy notions, and justice greatly impeded by useless formalities. He found the church greatly obstructed in its Christian work of saving souls, and that the doctrines and principles of Christ were lost sight of by creeds, ceremonies, superstitions, and dogmas that were only so much old rubbish and so many clogs to the wheel of progress. He found society full of etiquette. Each one stood on his dignity, and there was more formality than reality. He showed these absurdities in a ridiculous manner, and many of them are now among the things that were. Society is coming to its senses, and

and a man is valued more for his real merits and what he has done himself, than for the position society or hereditary law has given. Ceremonies look hollow or like a balloon, only full of rarefled air or gas. The poor are beginning to be objects of sympathy, and are treated with some consideration. Charles Dickens was at heart a philanthropist, and one of the best humorous writers of the day. Westminster Abbey is his worthy resting-place among the rare and gifted ones that have lived in the past ages. It will be long before we shall look upon his equal again. His memory will be tenderly cherished by the whole world.

OUR STUDIES IN PHYSIOLOGY.

BY PROF. T. H. HUXLEY.

THE FUNCTION OF ALIMENTATION.

POOD-STUFFS have been divided into heatproducers and tissue-formers—the amyloids
and fats constituting the former divisions, the
proteids the latter. But this is a very misleading classification, inasmuch as it implies, on the
other hand, that the oxidation of the proteids
does not develop heat; and, on the other, that
the amyloids and fats, as they oxidize, subserve
only the production of heat.

Proteids are tissue-formers, inasmuch as no tissue can be produced without them; but they are also heat-producers, not only directly, but because they are competent to give rise to amyloids by chemical metamorphosis within the body.

All food-stuffs being thus proteids, fats, amyloids, or mineral matters, pure or mixed up with other substances, the whole purpose of the alimentary apparatus is to separate these proteids, etc., from the innutritious residue, if there be any; and to reduce them into a condition either of solution or of excessively fine subdivision, in order that they may make their way through the delicate structures which form the walls of the vessels of the alimentary canal. To these ends food is taken into the mouth and masticated, is insalivated, is swallowed, undergoes gastric digestion, passes into the intestine, and is subjected to the action of the secretions of the glands attached to that viscus; and, finally, after the more or less complete extraction of the nutritive constituents, the residue

mixed up with certain secretions of the intestines, leaves the body as the fæces.

When solid food is taken into the mouth, it is cut and ground by the teeth, the fragments which coze out upon the outer side of their crowns being pushed beneath them again by the muscular contractions of the cheeks and lips; while those which escape on the inner side are thrust back by the tongue, until the whole is thoroughly rubbed down.

While mastication is proceeding, the salivary glands pour out their secretion in great abundance, and the saliva mixes with the food, which thus becomes interpenetrated not only with the salivary fluid, but with the air which is entangled in the bubbles of the saliva.

When the food is sufficiently ground it is collected, enveloped in saliva, into a mass or bolus which rests upon the back of the tongue, and is carried backward to the aperture which leads into the pharynx. Through this it is thrust, the soft palate being lifted and its pillars being brought together, while the backward movement of the tongue at once propels the mass and causes the epiglottis to incline backward and downward over the glottis, and so to form a bridge by which the bolus can travel over the opening of the air-passage without any risk of tumbling into it. While the epiglottis directs the course of the mass of food below, and prevents it from passing into the trachea, the soft palate guides it above, keeps it out of the nasal chamber, and directs it downward and backward toward the lower part of the muscular pharyngeal funnel. By this the bolus is immediately seized and tightly held, and the muscular fibers contracting above it, while they are comparatively lax below, it is rapidly thrust into the cesophagus. By the muscular walls of this tube it is grasped and propelled onward, in a similar fashion, until it reaches the stomach.

Drink is taken in exactly the same way. It does not fall down the pharynx and gullet, but each gulp is grasped and passed down. Hence it is that jugglers are able to drink standing upon their heads, and that a horse or ox drinks with its throat lower than its stomach.

During these processes of mastication, insalivation, and deglutition, what happens to the food is, first, that it is reduced to a coarser or finer pulp; secondly, that any matters it carries in solution are still more diluted by the water of the saliva; thirdly, that any starch it may contain begins to be changed into sugar by the peculiar constituent (ptyalin) of the saliva.

It is easy to ascertain the properties of gastric juice experimentally, by putting a small portion of that part of the mucous membrane which contains the peptic glands into acidulated water containing small pieces of meat, hard boiled egg, or other proteids, and keeping the mixture at a temperature of about 100°. After a few hours it will be found that the white of egg has become dissolved, if not in too great quantity; while all that remains of the meat is a pulp, consisting chiefly of the connective tissue and fatty matters which it contained. This is artificial digestion, and it has been proved by experiment that precisely the same operation takes place when food undergoes natural digestion within the stomach of a living animal.

The proteid solution thus effected is called a peptone, and has pretty much the same characters, whatever the nature of the proteid which has been digested.

It takes a very long time (some days) for the dilute acid alone to dissolve the protein, and hence the solvent power of gastric juice must be chiefly attributed to the pepsin.

By continual rolling about, with constant additions of gastric juice, the food becomes reduced to the consistence of pea-soup, and is called chyme. In this state it is, in part, allowed to escape through the pylorus and to enter the duodenum; but a great deal of the fluid (consisting of peptone mixed with saliva, and any saccharine fluids resulting from the partial conversion of starch, or otherwise) is at once absorbed, making its way by imbibition through the walls of the delicate and numerous vessels

of the stomach into the current of the blood, which is rushing through the gastric veins to the vena portse.

As the chyme fills the duodenum, the pancreas comes into activity, and its secretion with the bile from the gall-bladder, flows through the common aperture, and, mixing with the chyme, converts it into what is called chyle.

Chyle differs from chyme in two respects. In the first place, the alkali of the bile neutralizes the acid of the chyme; in the second place, both the bile and the pancreatic juice appear to exercise an influence over the fatty matters contained in the chyme, which facilitates the subdivision of these fats into very minute separate particles. The chyme, in fact, which results from the digestion of fatty food, is a mere mixture of watery fluid with oily matters, which are ready to separate from it and unite with one another. In the chyle, on the other hand, the fatty matters are suspended in the fluid, just as eil may be evenly diffused through water by gradually rubbing it up with white of egg into what is termed an emulsion; or as the fat (that is, the butter) of milk is naturally held suspended in the watery basis of milk,

The chyle, with these suspended particles, looks white and milky, for the same reason that milk has the same aspect—the multitude of minute suspended fatty particles reflecting a great amount of light.

The conversion of starch into sugar, which seems to be suspended wholly or partially so long as the food remains in the stomach, on account of the acidity of the chyme, is resumed as soon as the latter is neutralized, the pancreatic and intestinal juices operating powerfully in this direction.

As the chyle is thrust along the small intestines by the grasping action of the peristaltic contractions, the dissolved matter which it contains is absorbed in the ordinary way by the vessels of the villi. The minute particles of fatty matter, on the other hand, are squeezed through the soft substance of the epithelium into that of the villi; and so, in the long run, into the vessels; just as mercury may be squeezed by pressure through the pores of a wash-leather bag.

The digested matters, as they are driven along the small intestines, gradually become deprived of their peptones, fats, and soluble amyloids, and are forced through the ileo-cescal valve into the execum and large intestine. Here they acquire an acid reaction and the characteristic feecal odor and color, which become more and more marked as they approach the rectum.

EDITORIAL DEPARTMENT.



NEW YORK, SEPTEMBER, 1870.

WATER.

"To the days of the aged it addeth length; To the might of the strong it addeth strength; It freshens the heart, it brightens the sight; 'Tis like quaffing a goblet of morning light.'

WIT THE PUBLISHERS do not hold themselves as indorsing every article which may appear in THE HERALD.

They will allow the largest liberty of expression, believing that by so doing this magasine will prove to be more useful and acceptable to its patrons.

BT Exchanges are at liberty to copy from this magazine by giving due credit to THE HERALD OF HEALTH AND JOURNAL OF PHYSICAL CULTURE.

TOPICS OF THE MONTH.

BY M. L. HOLBROOK, M. D., EDITOR.

THE WAR.—With the suddenness with which a thunder-storm sometimes appears in an apparently clear sky, two of the great nations of Europe are to-day engaged in deadly warfare. It is with the utmost unwillingness that we accept this fact. Not that wars are always to be avoided, but because there is so little occasion for mortal combat between these powerful nations. The ostensible reasons for the war are so trivial that we can hardly read them without feelings of the deepest indignation. A half a dozen lines of ten words each are sufficient to express all the complaints of France against Prussia. Here they are:

"Firstly, the refusal by King William to

pledge himself that the advent of a Prussian prince to the throne of Spain should not take place with his consent; secondly, the alleged notifications to the Cabinets of the refusal by the King to receive the Ambassador of France and to continue negotiations with him."

Compare this declaration with the immortal Declaration of Independence, and how insignificant it appears. The one comprised grievances that bore heavily on the nation and the cause of human rights. The other effects only the pride of an Emperor—a pride which at the present writing seems likely to be humbled ir the dust. To the readers of THE HERALD OF HEALTH this war has a deep significance.

- 1. It means war without adequate cause.
- · 2. It means two million of men with splendid bodies and the best physical culture, having no personal animosity, standing face to face to kill each other.
- 3. It means the death of thousands of ablebodied men, and wounds, sores, bruises, starvation, permanent deformity and disability, and premature decay to thousands more.
- 4. It means deterioration of the physique of the nations engaged, by the loss of many ablebodied men.
- It means a war debt and burdensome taxes, grinding both rich and poor for generations.
- It means sickness, suffering, and death to thousands by famine and the spread of disease.
- 7. It means heart-breaking to those who lose their friends.
- It means an increase of pauperism and crime.
- And finally, it means great increase of passion, vengeance, lust, and perhaps the ruin of an empire.

The effects of the war on the health and physique of the nations engaged are sufficient reasons why The Herald of Health should

protest against it, but with the other evils in addition, and the little absence of sufficient ground for fighting, the protestation should be as terrible as the voice of an indignant humanity can make it. England, America, and all the great nations of the world should at least protest against it.

The terrible wars that have darkened like a cloud the horizon within the last generation, show that there is still great work for reformers and philanthropists to do. It is their work to educate the nations to a higher plane of thought. There would be but few wars if the moral faculties of man were more sensitive, and the selfish propensities not so overgrown and aggressive.

If each nation was bent on only the development of its own resources and the happiness of its own people, yet with a perfect regard to the rights of all other nations, there would be few national disputes. And if these could be referred to a congress of nations chosen from the wisest and best men and women of all, the result would be no standing armies, but at least the beginning of a day for universal peace and universal brotherhood.

ANIMAL FOOD AND GREASE.—In the June number of THE HERALD OF HEALTH we published without comment the following letter from one of our subscribers: "I have lived on a fruit and vegetable diet thirty-five years. I have eaten neither meat nor grease, nor even butter; cold water has been my drink. I have not been sick during this time; the most of my old friends who ridiculed my way of living are in their graves."

We thought it a very interesting statement, little thinking there was any thing in it to stir np the feelings of any thoughtful person. The Christian Union, a most admirable paper, edited by Henry Ward Beecher, however, prints the letter with some not very well digested comments. It says:

"That some people can live on such narrew diet is unquestionable. We have, on the other hand, sad memories of those who, in spite of our arguing and advice, persisted in the same course and became insane and died in early manhood. Much depends on occupation, the use that is made of the body, and the amount of brainwork. Generally we find that people who talk in this way have not brains enough to understand a very simple proposition. In certain ways the human digestive apparatus is expressly adapted on the plan of the carnivorous animals, to masticate and digest animal food, appointments which are otherwise useless entirely. Is this a mistake on the part of the Creator or not? That is the point-blank issue which vegetarians make with actual fact. Meats of various kinds are very readily taken into the system, are more rapidly absorbed than vegetables, and give strength to those that use them. If it was not intended, in the physical economy, that this should be so, then meats are poison and would long before this have made evident their deleterious qualities by being rejected from the organs. It suits the purposes of health reformers to denounce fatty materials in food, and they take delight in calling all such things grease. Now it happens that one organ in the body, the pancreas, has no work that can be discovered except to produce a fluid which takes up the fatty food, and makes an emulsion of it, thereby preparing it to be taken up by the proper vessels into the blood. In many cases of consumption and debility, it is found that fatty elements of food, which supply combustion and vital heat, are wanting, and the leading physicians in the world are greatly interesting themselves in correcting this cause of disease, while their experience is justifying their efforts. Inunction, or the rubbing of oil into the skin, proves in some cases of great benefit."

These remarks seemed to us to have little bearing on the letter commented upon, and we should not have noticed them at all, had we not observed in Mr. Beecher's admirable letter in The New York Ledger, some remarks on food which are quite different from those printed in his paper.

Mr. Beecher says in The Ledger, "And is

there any thing that will bear changing to better advantage than the gross and meaty dinners which, even if allowed in winter, should be banished from summer! The summer table should be spread with fruits and vegetables, with a mere hint of meat, as it were a connecting link of memory with the past.

For example, to-day I shall dine upon potatoes, new beets, and green peas, lettuce for the main dishes, and mulberries and raspberries for the dessert."

Then after speaking highly in praise of green peas, and how to prepare them for the table, he adds:

"Now with a cheerful heart seat yourself at the table, and rejoice that Nature ever invented the pea, and that she gave it to the temperate zone. With such a dish, who would sigh for green-turtle steaks? Still less for the gross meat of the shambles? In hot summer days let all your meat grow on roots, not upon hoofs. Summer meat fevers the blood, fills up the system with crass fluids, obfuscates the head, and stupefies the whole man! Meat in the winter, if you will; but for summer, fruits and vegetables!"

In the present condition of knowledge on the subject of food and diet, when we know so little, and have so much to learn, let us think wisely before we condemn so thoughtlessly any new hints on diet.

Women Clerks.—In a recent number of this magazine, we devoted some space to the question of the health and longevity of dry goods clerks. The discussion, however, related to males, and not females. We have no statistics relating to the latter, but if our observation and the observation of others is of any worth, it shows that women suffer severely when engaged in this business, not so much from the amount of work done as from the close confinement, the want of more exercise, and especially from the manner of dress. The amount of muscular effort that each healthy person should take daily in fresh air would be equivalent to raising 1,000 pounds one foot high, and many

should do much more than this. should be in addition to the usual walks and other exercises that are involved in the daily routing of life. This can only be secured by two or three hours spent in the open air. Then, again, women clerks dress badly. Of course they must dress neatly. Nobody will object to this, but taste and neatness can be secured without compression of the vital organs. The corset should be discarded entirely, and a large waist should be sought for rather than avoided. If women only knew how much handsomer they are when not compressed about the waist, they would change their mode of dressing without regard to fashion. If there is any painful sight to a physiologist, it is of a woman pinched and narrowed down to a mere wasp. Such women are never half alive. We advise women clerks to take more exercise and wear loose dresses, if they wish to live long with strong lives.

DEATH OF ADMIRAL FARRAGUT.—This distinguished naval officer has passed away, nearly three-score and ten years old. It may be said that, as a youth, he was remarkably free from excesses. His tastes were pure and his morals unexceptional. One of his remarks to those under his command regarding the use of rum, is worthy of perpetuation in letters o gold. He said: "I have been to sea a great many years, and have seen some fighting, but I have never seen the time when I needed rum to help me to do my duty!"

Bar-rooms versus Reading-rooms.—Gerritt Smith has set a practical example of how to promote the cause of Temperance, by buying the only hotel in Peterboro, and turning its barroom into a reading-room, well supplied with newspapers and periodicals. This is what we call moral prohibition of the sale of liquors. It takes away the bad, but does not leave in its place a blank to be overgrown with other evils. Mr. Smith is a practical reformer and philanthropist, and we only hope that his example will be followed in other places.

LETTER FROM MARY SAFFORD.—The following letter from Mary Safford, a student of medicine in the medical schools of Berlin, Prussia, will be found full of interest. Miss Safford is widely known in America and abroad as a traveler and student, and we are happy to lay her letter before the thousands of readers of The Herald of Health.

"ALLGEMEINES KROMEENHAUS, VIENNA, June 12, 1870.

"Yesterday forencon I played truant; left lectures, clinics, and hospitals for a walk into the city at 6½ in the morning.

An Annual Teachers Association, including representatives from all Deutschland, is in session here. The city is doing the honors of host to at least two thousand medaled pedagogues. It was announced that Prof. Eckhardt, from North Germany, was to lecture upon Lessing, Goethe, and Schiller.

We were at the door of the tasteful Art Association building as the faithful city bell struck 7. The doors were opened, the hall soon filled. And while we awaited the coming of the speaker, I took an inventory of the mental caliber of the crowd assembled. They did not impress me as being possessed of the energetic rim that so markedly characterizes a Yankee schoolmaster. The spectacled wisdom beamed from the eyes of the majority. Two veterans in the work sat beside me, with hair as white as snow. Was it because they were unsophisticated country masters, that they greeted me with "good morning," as they took their seats? No. It is a common custom among people in general in this Old World, to give a salute of brotherly recognition when brought in contact with each other. And then there followed a little chat upon various incidents connected with the association, and I wondered that I was not offered a pinch of snuff from the generously-filled odorous box that so often opened to a gentle tap, and that caused the frequent use of a large square, coarse (seemingly home-spun), blue and white checked pocket 'kerchief. I was very suspicious that not far from him sat a countryman of mine, for he was doing menial service' unknown almost to any European-extracting

and distributing on the floor, in spaemodic jets, the juice of the weed.

The Professor gave a most eloquent resume of the works of the trio German poets, and he made most complimentary mention of America in connection with a broad signification of the word "freedom." If the masters could indorse his liberal ideas—religious, political, and social—it spoke well for their intelligence. I noticed a priest in the audience couldn't stand the pressure, and left.

At 9 o'clock there was a general meeting of all the teachers, and to the music hall I hastened. Unarmed with a card, as was the rule to show one, if not badged, I wedged in with the crowd, unmolested by the military regulators of peace and good order.

What a hum of noises and buzz of voices, and rattling of the little extra morning sheet containing a synopsis of the speeches of the day before and the order of to-day's exercise. We wondered, at the early morning lecture, where the schoolma'ams were; if there could be an educational soil so sterile as not to produce them, but here, throughout the assemblage, was to be seen parhaps one woman to twenty men. Of those we scanned, the majority were plainly, and practically dressed, with intelligent faces. One I observed taking notes.

The order of the morning exercises being arranged, it chanced that the more complete, thorough, practical education of women was the theme to be discussed. Dr. Mails from Luber opened the discussion by showing how aimless and deficient the education of Germany's daughters now is; that they must be taught something thoroughly to render them self-supporting; that the injurious influences upon character of customs unworthy the present age of enlightenment, can not be too severely condemned and contended against.

It was announced that Miss Augusta Weyrowitz from Berlin, teacher, would speak upon the same subject. Never before had a woman's voice been heard in the association, and the warmth of applause that greeted her showed that the intelligence of the Old World is alive to our interests. Whether she had ever faced a public audience or not before, was not to be inferred from her manner. She spoke with perfect ease and to the point, insisting upon it that work that made man free, would also lead woman to taste the noblest freedom. She says, "See a family of five daughters (which is no stretch of the imagination), and what are they taught to do? To make noodle-soup, and wait till some one offers to marry them?"

She was followed by an Austrian lady who also presented an urgent plea for a higher standard of education, and the doing away with the convent instruction, so commonly inflicted upon young girls here. What an epidemic has become this desire to unfold the napkin that smothers the talent intrusted to them, and how plausable and just seems that desire, to the most intelligent and best thinkers, wherever found. Not long since, a professor from the north of Germany, who had been visiting the various clinics here, handed me his card, and apologizing for the liberty he took, said he had observed with such pleasure a woman devoting herself to scientific pursuits, that he desired to express his congratulations and approval of the same. And all along the rugged way there is much to encourage here. It is so cheering to go into a class and be measured as a student, and not insulted for being a woman. I have just had a six weeks course in operative surgery. Among fifteen students representing nearly as many nations and tongues, I answered to my name and performed all the operations common in surgery. I often wished that I could transform the skeletons fixed to the walls into those very sensitive, timid, high-toned professors, English and American, who falter for proper utterance when called upon to discuss medical subjects in the presence of women-students. Since taking the course, I have been invited by the first assistant of the surgical ward to make the evening visit with him whenever I desire, and that there would be no hindrance to my attending the clinic during operations, if I wished. And so it is everywhere. Instead of begging favors, they are proffered; there seems to be no other feeling here among professors and docters than that we have come here to learn, and shall have equal rights with others. We have now a Russian woman, the first who graduated at Zurich, and for whom the doors here were first opened. She has been in practice for a year and a half in St. Petersburg, and has done well. The struggle she had to reach the goal is so interesting that I must still add another sheet to my already long letter. At sixteen years of age she came home from boarding-school, finished in education after the usual manner of young ladies in general-knowing practically nothing! The allurements of society were to her as an apple of Sodom; but Nature was to her so full of wonder that she longed to fathom its mysteries. Her interests centered upon the heavenly bedies, and she would know something of their movements and their relations to the earth. But she was told that mathematics alone could reveal it. The roply to her request to study them was, "A girl study mathematics! how absurd!" But finally a private teacher was procured, and she went through Trigonometry. Then a desire to know Latin seized her, and after months of toil, and weeping, and sleepless nights, she was admitted into a gymnasium for boys, and went through a regular scientific course of study, and graduated. In the mean time, the pursuit after natural sciences became to her as a tinkling cymbal, for how, as a woman, could she make them useful? She had heard that a woman in America had graduated as an M. D.; there was a beacon-light for her to follow-an aim that touched the depths of humanity l

She had slipped in so quietly through the gymnasium, had gained sympathy and friends by her earnestness, and now was in the medical department, a daily attendant upon clinics. But here the depravity of the human heart, so deplorably illustrated in medical students, came to such a crisis that she was obliged to leave. Her father's patience, worn threadbare by her continual entreaties to study, gave out when she revealed to him her plan to become a doctor, and for a year there was no interchange of

words between them. But now, worn down with a desire to do, fettered in spirit, her health gave way, and then he saw his error, and told her that henceforth his limited means were at her disposal, to achieve every aim at heart.

Not a door of the Old World open to her, her lips sealed against the English lauguage, where could she seek and find the desired knowledge? Only in America! She began to study the language, but the thoughts of so wide a separation was as death to her parents. There came an idea to aid. Switzerland was also a Republic. Was there not generosity, justice, embodied in the very word? When she applied for the broad of knowledge, would they give her a stone? She went, and the Government was true to its name, but the permission of the professors was the next step; some said Yea, and some Nay, and during two years of unremitting study, she was under the shadow of doubt whether she should be permitted to graduate. But it was granted, and she carried away the approval of all professors, and now, where she was harrowed with doubt, fourteen women are pursuing their medical studies with men. We have here a recent graduate from there, an English woman. With her high attainments in medicine, with her holy earnestness, and her true womanliness, she will prove a living monument for the furtherance of our cause.

A woman's journal is published here weekly. It savors not a little of romance and fashion; still it will prove a hot-house for the propagation of ideas that will demand a deeper soil.

I have written you almost on the run, catch, ing up my pen between lectures—a poor confused letter. I wanted to say something that might be gleaned and concentrated, if you had any one to do it, into a little greeting for The Herald of Health.

In the midst of summer, almost a year since I came. I am weary; my brain at times addled, and yet I can not break away from the charm of work. I shall try to go to some quiet nook near here for August, and then back to work yet another year, and then home to try the realities of practice, always with the aim of a hos-

pital of my own. I keep my fingers on the pulse of the woman's cause, and rejoice when it beats healthfully."

BOYS AND SMOKE.—The French people carry the practice of smoking to a degree of perfection which constitutes it almost a fine art. The men smoke, the women smoke, and the boys smoke, whether the girls and babies smoke or not we do not know, but they have so few of them that it does not perhaps make much difference whether they do or not. The effect of smoking on boys, is said by an able medical writer, who has been investigating the subject. to be most favorable to the development, not of a manly, noble, healthy character, but of pallor, anemia, palpitation of the heart, a diminution of the normal number of red globules, dyspepsis, want of intelligence, and a liking more or less decided for strong drink. This information must be decidedly gratifying to the sarans of science, who have so often proved tobacco to be so wholesome a narcotic. Added to former evidence, it will make an argument so strong that even that enthusiast laborer against its use, George Trask, will perhaps see the folly of doing any more, and give up his work of distributing tracts broadcast to induce the boys to let tobacco alone. Of course, they will not let it alone. Its effect on French boys are incontestable. What better evidence do they want that they can use it. And then again, this same authority has noticed a very strong objection to breaking off. He says, "Those who abandon the practice before any organic lesions are produced perfectly recover their health." This is unfortunate. Why should boys wish to be so unlike other people as to be healthy. If they are sickly they can be petted and pampered, escape work, and die, and go out of this naughty world early. But seriously, Why do boys ever smoke? Because the example is set them by their elders. They are the most perfect imitators in the world. They like to try their hand at whatever they see others doing. Set them a good example and they will follow it. Set them a bad one and they will follow that, too.

ENTIRE WHEAT FLOUR FOR CHILDREN.—
"Should a mother who has not quite nourishment enough for her child drink nourishing drinks, as cocoa, and milk, or would you advise nothing but water? Will not eggs, or milk, or articles of diet make her weak?"

Wheat-meal or oat-meal gruel, made with milk, will be found excellent in such cases as are referred to by our correspondent. They will furnish more nourishment and of better quality than tea and coffee, or beer. When the child is three months old, if necessary, it can have oat-meal or wheat-meal gruel, made thin and slightly sweetened. Avoid giving children starchy preparations. It is a little strange that leading English physicians are now recommending for children preparations ground fine, but made from the entire wheat, as will be seen from the following extracts:

The fine ground flour of Entire Wheat is proved to be altogether the most desirable for general consumption, and we hope it will take the place of the purely starchy compounds now in use, both in the case of children and of adults.

—London Lancet, 1870.

The richness of Entire Wheat Flour in gluten or flesh forming material, and earthy phosphates or bone and teeth-forming substance, show it to be a very valuable food, especially for children. It is incomparably superior to arrow-root, corn flour, and other forms of starch which contribute but little to the formation of bone or muscle.—Prof. Attfield, F. C. S., Great Britain.

The flour of the Entire Wheat is a specially valuable nutriment to all persons, whether in health or disease, and of whatever age or country.—Sir J. Ronald Martin, C. B., Inspector-General of Hospitals, India.

I have given the Entire Wheat Flour an extended trial, and with results which have completely convinced me of its extreme dietetic value for invalids, children, and many of the wasting diseases to which the latter are liable. I was not unprepared for this, having regard to its richness in the plastic elements of nutrition, as well as in the mineral constituents which en-

ter into the bony framework of the body. I have found it invaluable in rickets, strums, and developmental diseases of various kinds. It should, in my judgment, take the place of the starches, which, under various names, are so largely and imprudently relied on as food. I feel that I may be doing a public good by thus furnishing you with an opinion carefully formed, after a very large experience of its use.

—J. Langdon Dovod, M. D., F. R. C. P., Physician to the London Hospital.

We have advocated this preparation in The Herald for years, still there are thousands who will never learn its value till the last moment. Persons who always do as their neighbors do, may be benefited by the above.

WATER-DRINKING IN HOT WEATHER .-A subscriber who has injured himself by drinking too much water on a hot day, while engaged in the harvest-field, asks us if it would not be better to use some other drink, as tea or coffee. We think that there are more persons injured by drinking artificial drinks in the hay-field than by drinking water. It is true that drinking large quantities of cold water, when one is heated and thirsty, is injurious, and should not be allowed. But if people would use a little sense and less salt, butter, meat, fish, cake, and greasy food, they would not suffer so much with thirst, and there would be little occasion to complain of the water producing injury. Fruit, and the fresh unfermented juices of fruits, too, if more freely used in hot weather, would release the system from the need of so much water and promote health. We speak from knowledge on this subject, having observed the experiments with all sorts of drinks. Coffee is a favorite drink in the hay-field for many, but it destroys the appetite and corrupts the blood, in the end producing fever and weakness, and should not be used.

Notice to Correspondents.—" Betsy Maguire, aged 76," we doubt not, is a most worthy and conscientious person, but has rather fallen behind the times. What might be in ac-

cordance with Betsy's mind, might be far from satisfying the thousands and thousands of readers of our magazine. Our old copy-book used o say, "Many men of many minds, many birds of many kinds," and an editor must do his best to bring something that shall awaken interest, or present ideas to all these various minds. We have understandings, imaginations, and promises to be guided and instructed, as well as bodies to be cared for in the wisest manner, and it is our object to present a journal that shall bring not only health to the body, but freshness, beauty, and life to the mind.

Music for Invalids.—An exchange says: "It was the celebrated German physician Hofeland who first fully recognized the curative power of music. Frequently the life of a dying man might be saved by gentle music not too near his bedside. It is often only to catch his attention and hold it with something that impart pleasurable feelings, in order to sustain him beyond that moment of supreme exhaustion which marks the crisis of disease. Usually, however, the ears of the dying are regaled with no music sweeter than the sighs and sniffles of their sorrowing friends. course they are troubled, depressed, and when the critical breath comes fail to catch it, and so die. There is much in this theory."

Music as an agent for promoting health is of high value. If invalids would devote an hour or two daily to practicing vocal music, it would often restore them to health. Persons with weak lungs may thus ward off fatal lung disease. The effect on both body and mind are excellent.

SEWING MACHINES AND HEALTH.—The ordinary sewing machine is often productive of ill-health, from the cramped and unequal action it gives to the muscles of the body. Persons who use them should take care to restore the balance to the circulation before it becomes fixed and chronic, otherwise much harm will result. We hope that some bright inventor

will try to invent a cheap electrical engine to run sewing machines. They would be a great blessing to women. It is said that a treadle has recently been invented that does not hurt the operator, but we have not yet had the pleasure of seeing it.

GOLD AND SUICIDE.—Dr. Emmet Hall recently read a paper before the Homocopathic Medical Society of Cleveland, in which he argued that from Homosopathic provings it might be inferred that the gold filling of decaved teeth would produce a state of mind inciting to self-destruction. This is, with due respect to Dr. Hall, very funny. No doubt too little gold in the pocket sometimes, unfortunately, leads to self-destruction. There are thousands of poor, starving persons on this globe that would love life more deeply if their pockets were lined with gold. Indeed, it is one of the Hygienic agents which have so high a value in maintaining health. Not that we countenance the insane worship of pelf, but that money means a home, comfort, good books, good clothes, good social surroundings, travel, education, and the comforts of life. Blessed be the man and woman who has gold, and knows how to use it to the best advantage for human advancement.

A VILE SLANDER.—If any of our readers have happened to see the vile slander published in a third-rate paper called The Sun. against one of our gifted and valued contributors, Mrs. E. Oakes Smith, they need hardly be assured from us that the charges there brought are false, and action for libel will soon be brought against the parties publishing them. There are people whose greatest delight is to blacken the fair name of gifted and noble souls, and words will hardly express the contempt we should all feel for such. Let us all with one accord frown down those who can do no higher work in the world than to make as black as themselves the fame and name of the pure and the good.

How to Treat the Sick.

FAT AND THIN PEOPLE.—The following is a chapter from the advance sheets of Dr. Dio Lewis's "Talks About People's Stomachs," soon to be published:

HOW PAT PROPLE MAY GET THEMSELVES INTO SHIP-SHAPE.

"Even in New England there are a great many uncomfortably fat people. I say even in New England, because it is supposed that Yankees are a gaunt, ghostly folk. But in an audience of five hundred, almost anywhere in New England, you may see a dozen uncomfortably fat people-waddling wheezy, anti-go-up-stairs sort of people. Down in Pennsylvania, in an audience of the same size, especially if you are in a country district, the proportion of fat ones is very large. Let me give you a case—a funny An immensely fat, panting, red-faced C8.80. woman came to me with a fat word in her mouth, 'obesity,' and, standing before me, exclaimed:

'Doctor, just look at me! Ain't I a sight to behold? This is the torment of my life. I shouldn't weigh more than one hundred and thirty pounds, but I do weigh two hundred and twenty. Now just think of my carrying that extra ninety pounds whenever I move. What can be done for me? All summer long I pant and perspire, and wish myself in Greenland. When I walk the street, my sister says I look just like a Berkshire pig. When I go up stairs in a hurry, I just lose my breath altogether, and plump myself down into a chair, and gasp it back again. Now what can be done for me, Doctor?

- 'Has your husband a horse?' [I already knew he had several.]
- 'Oh, yes; why, you know he keeps a stable full.'
 - 'Do they ever get fat?'
 - 'Oh, yes; you know my husband keeps fast

horses. I hear about nothing else the year round, but "2.40, 2.313/4," and that "they are too fat," and that "they are out of condition," and all the rest of it; you know the phrases.'

'When your husband's horses get too fat, can he reduce them?'

- 'Oh, yes; very easily.'
- 'How does he do it?'
- 'Why, he reduces their food, and gives them more exercise.'
- 'Madam, all I have to say is, "Go thou and do likewise."
- 'What! starve? Why, I have tried that for months together. What I have eaten wouldn't keep a mosquito alive; and I have grown fatter and fatter all the time.'
- 'Madam, you must excuse me, but what you are saying lacks accuracy. You eat and drink too much, or you would not be in this condition.'
 - 'Well, how little should I eat.'
- 'I can not tell you that; but I can say that you should reduce the quantity which you are now eating, and you should live with very little drink. This will help you much.
- 'To be particular, let me say, go on with just such food as you like. If you are fond of meat, all the better; increase the proportion of that article a little. Masticate the food very thoroughly, so that you will not need much drink to swallow it. When you have a desire for drink, content yourself with a single mouthful. In a week or two you will be surprised to find how the wish for water has disappeared. If you can learn to get on with one tumblerful of water, or other drink, per day, this fat, shaky condition will at once begin to disappear.
- But to speak of your food again, reduce the quantity you now eat one-quarter, and after, say two months, reduce another quarter. This reduction will probably be sufficient, if you rigidly observe what I have said about drinks.

'If, in addition to this, you exercise yourself into a profuse perspiration once or twice a day, you will be astonished to find how soon your clothes will be growing loose. Why, madam, there is not a fat person udder fifty years of age in the country, who might not get himself or herself into comfortable proportions in less than half a year.'

'Doctor, what do you think of Banting's system?'

'I think just this. If people have no control over their appetites, that system is a good thing, although sure to produce an abnormal condition of the tissues. We can not use meat above a certain percentage in our food without deranging the general health. A feverish, hard pulse, and a certain condition of the stomach and liver which will show itself in a darkening of the complexion—these and other symptoms will show, when we eat more meat than we should, that the vital processes are not going on well; and besides, this expedient, which Banting advises, of living on meat is entirely unnecessary. It is infinitely better to keep up about the usual proportions of meat and vegetable food, and simply reduce the quantity.'

'But, Doctor, if I go into this thing as you advise, it seems to me that I shall hardly be able to keep on my feet, I shall be so weak.'

'Madam, you are entirely mistaken. Any person when too fat will only experience a sense of lightness and increasing strength, when making a judicious reduction in the amount of food and drink. He will breathe better, move quicker, and feel that a great load is being removed.

'For example, a man weighs, say two hundred and fifty pounds, and should weigh, to be active and healthy, one hundred and seventy-five pounds. This man is carrying about an extra seventy-five pounds, interfering with his respiration and activity; in other words, cutting short the two great conditions of health, viz., respiration and exercise. Yet that man goes on puffing and blowing until he dies, and dies prematurely, too, for excessive fat is inimical to longevity.

'Another word or two about drinks. All fat people are large drinkers, and when we remember that about three-fourths of the human body are water (if you put a human body into an oven and make it perfectly dry, it will go down from one hundred and fifty pounds to about forty pounds), you see what an intimate relation with this fat condition the large use of drinks may have. And it is not difficult to learn to get on with but little water. Most people drink many times more than they really need. A man weighing two hundred and fifty, has sixty or seventy pounds more of water in his system than it needs. So he must drink but little water and he will soon get on comfortably, not only without suffering, but with improving health.

'Madam, before you leave, I want to say one other thing; you must not sleep too much. Long sleep fattens. Don't go to bed very early, but get up early in the morning. Seven hours in the twenty-four, or say six hours for awhile, will do for you. In other words, madam, my prescription for you is, keep your eyes open and your mouth shut.'

HOW SHALL THIN PROPLE BECOME PLUMP.

But for one fat person there are, especially in New England, a dozen lean ones.

Here comes a young woman of twenty-five, who looks as though she were thirty-five, and the prematurely old look comes from this clinging of the skin to the bones. See how hollow her temples and cheeks are. Casting her eyes about the office to see that nobody overhears, she says:

'Doctor, what can be done for these dry bones? Why, I can hardly make a shadow; and while I ought to be plump at twenty (which she desires me to understand is her age), here I am looking like an old grandmother. Can any thing be done for these crow's feet about my eyes, and these scrawny collar-bones?

'Well, this is curious; a woman in just the opposite condition has this moment left here. She is carrying ninety pounds too much flesh. That makes her miserable. I have prescribed

for her, and if she follows the prescription, in six months she will lose her extra pounds. If you have no disease, but simply a lack of fat, I am sure I shall be able to prescribe for you, so that the desired twenty-five pounds or more will come in about the same length of time.'

'I am perfectly well, and I am strong, too, only I am such a skeleton.'

'Let me question you a little. What time do you go to bed?'

'Generally about 11, or 111/2.'

'This must be changed. Instead of going to bed at 11 or 111/2, if you are really in earnest about getting a plump, youthful appearance, you must go to bed at 81% or 9 o'clock. With a fresh, plump, youthful personnel, a single hour in any company will gratify you and your friends more than a dozen nights with this fagged and old look. So go to bed at $8\frac{1}{2}$ or 9 o'clock, and don't be in a hurry about getting up in the morning. On going to bed and on getting up in the morning, drink as much cold water as you can swallow. Soon you will learn to drink two tumblers; and some persons may learn to drink still more. Drink all that your stomach will bear. Spend a good deal of time in the open air, without hard exercise, but exposed to the sun and fresh air. If practicable, ride in a carriage some hours every day. Remain out enough to give you a good appetite, but don't work hard enough to produce excessive perspiration. Eat a great deal of oat-meal porridge, cracked wheat, graham mush, baked sweet apples, roasted and broiled beef, though the vegetable part is more fattening than the animal part. Lie down an hour in the middle of the day, just before you take your dinner, to rest, and, if possible, take a little nap. Cultivate jolly people. "Laugh and grow fat" rests upon a sound physiological basis. A pleasant flow of the social spirit is a great promoter of digestion. There, now go home, keep your skin clean, sleep in a room where the sun shines, keep every thing sweet, and clean, and fresh about your bed, sleep nine, if possible ten hours in the twenty-four, eat as I have told you, cultivate the jolly spirit, and in six months you

will be as plump as even your lover could wish you to be.'

My prescription for the fat lady was, keep your eyes open and your mouth shut.

My prescription for you is, keep your eyes shut and your mouth open.'"

STIMULATING THE SICK.—We do not much believe in stimulating sick folks, unless it is by air, sunlight, rest, proper food, and a healthy, mental state. Many a person sick with fever or slow, lingering disease, is stimulated out of the world by beef tea, brandy, champagne, ammonia, and other nostrums, when he might have lived by good nursing and nutritious food. They die of starvation. The blood soon becomes impoverished when wholesome food is withheld, and, if in addition, it is loaded with noxious drugs, its character is greatly changed, and it becomes quite unfit to yield nourishment to the tissues through which it circulates.

SUNSTROKE.—From the excessive and long-continued heat of the present summer have resulted many cases of sunstroke. In almost every case, the patient has been addicted to the the use of alcoholic stimulants, the sun being only the exciting and not the remote cause of the disease. The most effectual treatment is to place the patient in a tepid or hot half bath, and apply friction to the legs, arms, and back. Cold compresses to the head are useful in this disease.

HYDROPATHY IN TYPHOID FEVER.—In German hospitals Hydropathic treatment of typhoid fever is now very popular. From October 1, 1868, to June 1, 1869, 126 cases were treated by cold water, only ten of whom died or a little less than nine per cent. Previous to the adoption of this method, the deaths were about fifteen per cent. The recoveries were much more rapid, and the pleasure manifested by the patients in the baths were quite wonderful.

ANSWERS TO CORRESPONDENTS.

BY A. L. WOOD, M. D.

Fainting Fits, and How to Treat
Them.—Fainting or syncope is a partial or
complete cessation of the action of the heart, a
loss of consciousness, and a diminished or suspended respiration. The treatment should
be:

- 1. Place the person in a horizontal position upon the back. Do not bolster up the head, but leave it on a level with or a little below the body.
- 2, Secure fresh air for him at once, and, if possible, let it blow across his face, but if not, fan him. If he is in a close, crowded room, remove him immediately, but keep him in the horizontal position while doing so.
- 3 Loosen all clothing about the throat, chest, waist, and abdomen.
- Dismiss every person from the room, except such as can render the necessary assistance.
- 5. Sprinkle cold water upon the head and face. If that does not effect the desired result, pour a stream of cold water from a hight of several feet upon the head. When the patient can swallow, a drink of cold water should be given.
- Rub briskly and slap sharply the palms
 of the hands and soles of the feet, and, in obstinate cases, do the same to the whole surface of
 the body.

In most cases the horizontal position and pure air are sufficient to restore the patient. When caused by drinking a large quantity of cold water, a liberal amount of hot water should be given immediately. When a person feels the premonitory symptoms of fainting, as many do, he should at once place himself flat on his back. This alone will usually prevent the fit.

Bad Breath, Cause and Remedy.

—A bad breath is an indication of imperfect digestion of the food, and whatever tends to derange the digestive organs, is a producing cause of a disagreeable breath. Among these causes are eating at irregular hours, too often and too fast, eating too large a quantity and an undue proportion of carbonaceous food, as

fat meats, grease, butter, sugar, candies, cakes, pastry, starch, fine flour, etc., the use of to-bacco and alcoholic liquors, inattention to cleanliness, and lack of sufficient exercise. All that is necessary to effect a cure, is to see that the causes cease to operate and Nature will do the rest. A bad breath is sometimes caused by decayed teeth, but these in turn are usually intimately affected by the condition of the stomach. The teeth must be kept scrupulously clean, and where decay has taken place they should be filled with gold, if they can be saved, if not, extracted at once.

Tight Lacing and Torpidity of the Liver.—"Has tight lacing any thing to do with torpidity of the liver and constipation of the bowels, except in an indirect manner, by contracting the lungs, diminishing respiration, and thus weakening the entire system?"

Tight lacing has a great deal to answer for in the production of these, as well as other diseases. Its injurious effects are produced in two ways: first, by the direct pressure upon the liver, confining it to a smaller space, compressing it, and thus directly preventing its proper action. Lace up an arm or a leg in the same way, and notice how soon the circulation will diminish, the limb decrease in size, and its strength waste away. The effect of continued pressure upon any organ or part of the body is the same. The second way in which it produces injury is, by preventing the right mode of breathing. In natural respiration, the diaphragm contracts at every inspiration and forces the liver, stomach, and bowels downward and outward, while at each expiration the diaphragm relaxes and the abdominal muscles contract, forcing these organs back to their former position, thus keeping them in constant motion. This motion of respiration is necessary to good digestion, and the healthful action of the liver and bowels. With tight lacing this natural mode of breathing is impossible, and the stomach, liver, and bowels being deprived of the needed motion, become torpid and inactive. From inactivity of these organs many of our most dangerous diseases arise.

Mair Tonics and Cosmetics.—The following is an extract from the report of Prof. C. F. Chandler, Ph. D., Chemist to the Metropolitan Board of Health, and contains the results of an examination of some of the articles in general use. If people will use such poisonous preparations they should at least know what they are doing, and then they need not be surprised when their legitimate effects are made manifest, as they surely will be.

I. HAIR TONICS, WASHES, AND RESTORATIVES.

Grains of Lead in One Fluid Ounce.

Clark's Distilled Restorative for Hair, -	0.11
Ghevalier's Life for the Hair,	1.02
Circassian Hair Rejuvenator,	2.71
Ayer's Hair Vigor,	2.89
Prof. Wood's Hair Restorative,	3.08
Dr. O'Brien's Hair Restorer America, -	3.28
Gray's Celebrated Hair Restorative	3.89
Phalon's Vitalia,	4.69
Ring's Vegetable Ambrosia,	5.00
Mrs. Allen's World's Hair Restorer, -	5.57
L. Knittel's Indian Hair Tonique, -	6.29
Hall's Vegetable Sicilian Hair Renewer,	7.13
Dr. Tebbet's Physiological Hair Regen-	
erator,	7.44

Martha Washington Hair Restorative, - 9.80 Singer's Hair Restorative. - - - 16.39

II. LOTIONS OR WASHES FOR THE COMPLEXION.

Perry's Moth and Freckle Lotion.

Mercury in solution, - - - 2.67 grains.

Zinc in solution, - - - - 0.99 grains.

Equivalent to

Corrosive Sublimate, - - - 6.31 grains. Sulphate of Zinc, - - - - 4.25 grains.

Sulphate of Zinc, - - - - 4.25 grains.

The sediment contains mercury, lead, and bismuth.

III. ENAMELS FOR THE SKIN.

Grains of Lead in One Fluid Ounce after Shaking. Eugenie's Favorite, - - 108.94 grains. Phalon's Snow-white Enamel, 146.28 grains. Phalon's Snow-white Oriental

Cream, - - - - 190.99 grains.

Conclusion.—It appears from the foregoing:

1. The Hair Tonics, Washes, and Restoratives contain lead in considerable quantities, that they owe their action to this metal, and that they are consequently highly dangerous to the health of persons using them.

- With a single exception, Perry's Moth and Freckle Lotion, the lotions for the skin are free from lead and other injurious metals.
- 3. That the Enamels are composed of either carbonate of lime, oxide of zinc, or carbonate of lead, suspended in water. The first two classes of enamels are comparatively harmless, as harmless as any other white dirt when plastered over the skin to close the pores and prevent its healthy action. On the other hand, the enamels composed of carbonate of lead are highly dangerous, and their use is very certain to produce disastrous results to those who patronize them.
- 4. The white powders for the skin are harmless, except in so far as their application may interfere with the healthy action of the skin.

Canned Fruit.-Fruit is not only the most delicious but the most healthful food we have, and every family should be supplied with it the year through. In order to have a supply during the winter and spring, preparations must be made now. The best mode of preserving is by canning. The old style of preserving-a pound of sugar to a pound of fruit-is worse than none. Glass jars with glass covers are the best. These jars with proper care, will keep any kind of fruit without sugar, and will last for a generation. Not only peaches, pears, grapes, tomatoes, and the small fruits, but green beans, peas, corn, and other vegetables, should be canned in large quantities, so that they may appear upon the table not only every day, but at every meal, until fruits and vegetables come around again. "But the expense!" some will exclaim. It is not so expensive as meat, and far more healthful as well as palatable. Try it, and save your doctor's bills.

Exercise before Brenkfast.—"Is it better to breakfast soon after rising, or should some physical exercise intervene?"

At least an hour should elapse after rising before breakfast. It is better to take some light exercise. The appetite will be better, and the food will digest easier and be more easily assimilated.

Laugh More and be Sick Less.

NOTICES OF NEW PUBLICATIONS.

GUILTY OR NOT GUILTY. The True Story of Manhattan Well. New York: Published by Carleton. 1870.

"'Tis pleasant sure, to see one's name in print,
A book's a book, although there's nothing in 't."

So says Byron, and this must be the feeling of many an author in the present day. Guilty or Not Guilty throws no new light upon the tragic mystery of seventy years ago, and the motive consigned to Levi, the supposed murderer of the unfortunate girl, is altogether inadequate to the cruel, bungling catastrophe. The work is very unequal, and might have been concoded by more than one person; the school-girl life by one, and the denousment by another, but there is a general feebleness and inconsequentiality that forbids the suspicion that two persons could work to so little purpose. The only exception to the general weakness is the character of Mary Ann, which is sharply drawn, and presents the glow of life and originality. Here, if anywhere, the author has a vein of truth and force which may stand him in good stead.

SLEEP AND ITS DEBANGEMENTS. By William A. Hammond, M. D. Philadelphia: J. B. Lippencott & Co.

This work, despite its defects, contains much that is new and valuable. There are twelve chapters, which go over the ground in nearly all its phases. The remedies for wakefulness are, however, hardly up to the latest discoveries of the profession, and in this respect the work is very unsatisfactory.

ELM ISLAND STORIES. THE YOUNG SHIPBUILD-RES. By Rev. Elijah Kellogg. Boston: Lee & Shephard. 1879.

Every head of a family has experienced the difficulty of procuring interesting and wholesome reading for boys. There is so much affeat, which, if not permicious, can not by any means be esteemed good, that we are heartily glad to find a work which we can indorse as of salutary import. The Young Shipbuilders is written with simplicity, and freshness attractive to the mature reader, while at the same time it is sufficiently practical to convey ideas of utility to the boy-mind. Elm Island being quite outside of the pale of artificial life, its residents are thrown upon their own resources, and present us with pure and refresh-

ing pictures of home life. We have the delinestion of women truthful and affectionate with spirit, and country-bred ways and talk; hardy sailors and fishermen, with their perils and triumphs—boys inured to toil, brave, honest, and full of endesvor. Under these quaint pictures breathes many a moral and religious incitement, springing naturally from the development of the characteristic incidents of the story. In interest, and thorough truthfulness to nature, it is worthy to rank with that most moral of books, De Foe's Robinson Crusoe.

Talks to My Patients; Hints on Getting Well and Keeping Well. By Mrs. R. B. Glessen, M. D. New York: Wood & Holbrook, Publishers, No. 15 Laight Street. 1870.

Of medical books, says The National Standard, there is no lack; but for such as these, hygienic and practical, the world waits and suffers. Many a young girl graduates from our schools and colleges, versed in classical knowledge, who is yet lamentably ignorant of the marvelous mechanism of her own body and the divine laws which regulate its harmonious development. Mothers too often fail to supply the wise counsel and instruction which is of such vital interest to their children, and so the most sacred functions of life are ignorantly trifled with, while through untold sufferings the penalties of violated law are revealed. Mrs. Gleason's book supplies just the want which this deficiency creates. It should be welcomed as a companion and guide in every household. Its style a unobjectionable; so frank in its confidential tone; so delicately searching in its counsels. We can not speak too warmly in its praise, or recommend it too heartily to a wide circulation. It is indicative of the better general physiological instruction we may hope for when women physicians multiply in numbers.

EXCELSIOE COOK BOOK AND HOUSEKEEPER'S

AID, ETC., ETC. By Laura Trowbridge. New York:
Oakly, Mason & Co.

Of the making of cook books there seems to be no end. Perhaps it is well that this is so, for then we may hope that in the end we shall have one at least worthy of high praise. The book before us contains much that is valuable, much that is worthless, and some that may be termed permicious.

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E. P. EVANS,
F. B. PERKINS,
PROF. L. N. FOWLER,
PROF. HUXLEY,
DR. A. L. WOOD, and
THE EDITOR.

Wanted.—Will our readers please send us brief items of news and experience referring to Health and Physical Culture topics. Make them pointed and practical, and we will publish them for the benefit of others. Do not mix them up with business or personal matters, but on separate sheets of paper and in readiness for the Printer.

Our Promiums.—We shall be careful to send out as Premiums nothing which is not all that we claim for it in value. No cheap, second-hand, or indifferent article will be used.

Facts for the Ladies.—I purchased my Wheeler and Wilson machine July 10, 1857, and for the first six years used it constantly from morning until late in the evening on heavy cloth and Marseilles work, and the remainder of the time I have used it for family sewing without repairs, and the machine is in so good condition that I would not exchange it for your latest number. It will wear a dozen years more without repairing. I have used one needle nearly three years, and have some of the dozen needle that I received with the machine.

MRS. T. EDMONDSON.

JERSEY CITY.

A Good Sewing Machine is given free for a club of 35 subscribers and \$70. This premium is very popular. If there is a poor, deserving family in your neighborhood help it to get a good sewing machine by subscribing at once. Perhaps your minister's wife wants one. If so, help her to get it, by helping her to get up a club. The Empire is one of the best sewing machines in use, and we are sure that it will give you good satisfaction.

The Address Label.—By this method our subscribers can keep their own accounts as to when their terms of subscription close; for instance, if the printed slip has "De7e," or "Je71" added to the name, it signifies that the subscriber's term of subscription expires with the December number of 1870, or the June number of 1871, and so on et seg.

Talks to My Patients.—Mrs. Gleason's book, advertised and noticed elsewhere, is meeting with a good sale. We can supply it to subscribers and agents in any quantity. A good many ladies are selling it with success. We should like to have in every town a good Lady Agent. For particulars of agency, write to the Publishers.

Books C. O. D.—Parties who order books will find it cheaper to send the money with the order, than to order C. O. D., as in this case the cost of collection will be added to the bill. This is considerable, when the money has to be returned from a distant point. Those who order C. O. D., should send one-fourth the value of the order in advance to insure prompt attention.

Caution.—Our friends in writing to us will please be very particular and give Postoffice, County and State with every letter, and not depend on us to remember where they live, though they may have told us a hundred times. Those who think we can turn to our books and find their names and address without trouble, are quite mistaken.

How to Send Money.—In making remittances for subscriptions, always procure a draft on New York, or a Postofice Money Order, if possible. Where neither of these can be procured, send the money, but in a Registered letter. The present registration system has been found by the postal authorities to be virtually an absolute protection against losses by mail. All Postmasters are obliged to register letters whenever requested to do so.

Clubs of Twenty-five.—Any person who will send us at one time twenty-five new subscribers to this mouthly, shall have them for Twenty-five Dollars. Bemember they mus be new subscribers, and all be sent at one time.

Notice to Our Correspondents.—
The following hints to correspondents should be observed in writing to us:

- Always attach name, Post Office, County, and State to your letter.
- Seed Money by Check on New York, or by Postoffice Money Order. If this is impossible, inclose Bills and register Letter.
- CANADA AND NEW YORK CITY SUBSCRIBERS should send 12 cents extra, with which to prepay postage on subscriptions to THE HERALD OF HEALTH.
- REFERENCE, if you are entitled to a Premium, to order it when you send the Club, and inform us how it is to be sent.
- REMINISHE THAT WE NOW GIVE the Empire Sewing Machine as a premium. It is guaranteed to give good satisfaction.
- 6. REMEMBER TO SEND in Clubs early.
- REMEMBER TO LOOK at our Premium List and Book Last, and see exactly what we give and have for sale.
- REMEMBER that for the names and addresses of 25
 persons, either invalids or friends of Temperance and
 Health Reform, we give Prof. Wilson's book on the
 Turkish Bath. It contains 72 pages.
- STAMPS should be sent to prepay postage on letters that require an answer.
- Those who want a good Spirometer, Parlor Gymnasium, or Füter for making their water clean, will find the prices in another column.
- INVALIDS from all parts of the country are invited to write to us for our circular, and full particulars as to Treatment or Board in the Hygienic Institution, See advertisement elsewhere.
- 12. See List of Books elsewhere.

Job Printing.—We are prepared to execute in neat, substantial styles, various kinds of Jon Parature: such as Pamphlets, Circulars, Envelopes, Billheads, Letter-heads, Cards, Labels, Small Handbills, etc., at the same rates as in all first-class New York printing establishments. Stereotype work done to order.

Our friends in the country who wish neat and acsurate printing, can rely on first-class work, by sending plainly written and well-prepared manuscripts. For terms, send sample or copy of work, state quality of printing material to be used, and the number of copies wanted, inclosing stamp for reply.

Home Treatment.—Invalids wishing prescriptions for home treatment can have them for Five Dollars. They should send full particulars of their cases. Any person sending five new subscribers to THE HERALD OF HEALTH and Ten Dollars, will, if he does not choose other premiums, be entitled to a prescription for treatment free.

The Picture of Humboldt.—We are now sending out the picture promised to our single subscribers for 1870, who send directly to the publishers \$2. Lest there be a misunderstanding on the part of some, we state distinctly that those who take THE HERLD at club rates will not be entitled to it. The way to secure the picture is to send your money direct to the Publishers.

Notices of the Press.—We call special attention to the notices of Mrs. Gleason's book which we have received from persons who have read it, and from the newspaper and magasine press. It is rarely that a work of this character has been so well received.

WHAT THE DOCTORS, THE PEOPLE, AND PRESS SAY

ABOUT MRS. DR. GLEASON'S

TALKS TO MY PATIENTS.

From P. H. HAYRS, M. D., of Walkins, Mass.

I have just laid down Mrs. Dr. Glesson's new work, and I am impatient to take up my pen in praise of it. The book is true to its title, and full of strong points and good counsels. But its chiefest charm for me is that the writer so well understands the so frequent connection of a troubled spirit with broken health, and that from the fountain of her own warm Christian heart, and from her experience as physician, wife, and mother, she knows so wall how to

"Minister to a mind diseased,
Pluck from the memory a rooted sorrow, and
Clea: se the stuffed bosom of that perllous stuff
Which weighs upon the heart."

From Mrs. Sarah R. A. Dolley, M. D., Rochester, N. Y.

The title, "Talks to My Patients," might indicate to some that the interest of this pleasant and instructive volume was confined to the patients of its author; but which the needs of these may have suggested the "Talks" which come to make the book, no physician will read it without thinking of scores who would be benefited by its perusal; and no mother will read it who will not thereafter be better prepared to lovingly and understandingly guard and care for the physical and moral well-being of her children. I have set it streulating among my patients.

From Mrs. Dr. WINSLOW, Washington, D. C.

Never was a book more truly named. In reading it, I see the author before me and hear her voice. It does me good, and it will do every one good for whom it was written. What a happy thought it was for the author to diffuse herself in such a quiet, modest way over the hearts and lives of those she had previously blessed!

From Mrs. Dr. Sales, Elmira, N. F.

I am glad Mrs. Gleason has written "Talks to My Patients." It is a worthy offspring, and will go forth and a blessed work where her voice can never be heard. I would rather have written that book than been queen of the greatest empire on this small globe of ours!

From Rev. JOSEPH SMITH, Grand Rapids, Mich.

It is a book admirable for its brevity and sense. It is the best on such subjects that has ever met my eye. I believe it will do very much good. We are glad to see the author's hand and soul on every page, and to feel that ahe has written, in Christian love, on a theme which is really sacred, but is made so much a medium of quackery.

From Mrs. STANLEY, of the Female College, Elmira, N.Y.

I believe it to be the book above all others to put into the hands of young mothers and maidens, to help and to guide them in regard to those topics and functions peculiar to woman. I hope and believe the book may find a large sale, for it is worthy of an extensive circulation, and I shall hope to bear a small part from year to year in recordmending it to my friends.

It is a compend of motherly and womanly hints, which should be accessible to all of the female sex, whether maidens or mattens.—Roston Cultivator.

A book that contains much new and valuable information; no nonseuse in it.—San Francisco Alta California.

A book we can safely recommend.—Arthur's Magasine.

From Elizabeth Oakes Shite, the well-known Authores

I would gladly see this work in the hands of every young mother in the land; it would serve to give her confidence in herself and in the divine provisions of Nature. She would be saved from that weak and senseless fear which embitters the life of the young wife and mother, and leads her to adopt courses destructive to her peace of mind and detrimental to her health.

The full, gracious womanhood of the author is apparent throughout, not unmixed with a cheerful humor quite refreshing upon such subjects. She is eviden'ly families with the pen, and uses it with ease. She is sufficiently scientific, but not technically so, and her book may be e ted as proof that women never undertake any thing they are unable to accomplish. I am proud to say that such women honor the profession; they are fast driving from its ranks those unprincipled charlatans who cater to the weakness and wickedness of woman, and render marriage a barron and dishonored relation.

From The Evening Mail, New York City.

We know of no book which, in its way, deserves heartier commen lation. This is said to be the first medical
work issued in America from the pen of a woman; may
all that follow be as good! Modest in its assumptions, it
does not pretend that physicians are unnecessary, but it
teaches what are the causes of many diseases, and how
they and the physicians may be avoided. It so avoids
the two extremes of mock delicacy and pandersome detail
with such good sense, that we could wish it put into the
hands of every American girl and woman.

From The Liberal Christian, New York City.

After reading the whole of this book, we pronounce it the most admirable and excellent that we have ever seen of its class. It is written for women. The style is pleasant and readable, and it is full of wise counsels and suggestions regarding the very things in which so many people most need assistance. It is a safe book for young people to read, for any body, indeed, and this can be said of very few books devoted to such subjects. There is not a sentence in it that can be perverted, or misused, so as to do any harm. We wish the book could be read in every household in our country.

From Harper's Magazine, New York City.

Mrs. Gleason is able to say something to wives and as mothers which no man could say. There can be no difference of opinion about the value of the practical suggestions she affords, which are characterised by sound philesophy and clear, good, sterling common sense. We wish the chapter, "Confidential to Mothers," might be published as a tract and sent to every mother in the land.

This book is like the familiar conversation of some wise, experienced friend, who has gathered young girls, young wives, and young mothers to her side, and is telling them all about the grave mystery of their organization and how to care for themselves.—Elastra Advertiser.

This book treats in a thorough yet delicate manner of all the troubles, cares, and diseases of women. We do not hesitate to say it is the best book of its class we have yet seen—Gody's Lady's Book.

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THE TWO WIVES.

BY MRS. BLIZABETH OAKES SMITH.

CHAPTER XXVII.

DOUBTS.

THE Professor, often interrupted by professional and family avocations, noted his visions in his journal from time to time as he had opportunity. He was conscious of some embarrassment, as his dreams brought him in nearer relation to Zalinka, and he often resolved to lay the whole matter before Cora. From this he was deterred by knowing the relation would cause her discomfort, and by the reflection that this experience, if experience it were, was one transpiring far back in the ages, and had no accordance with his present life and modes of thinking.

Pure in thought, and pure in action, this fargone life, with its vast Pagan surroundings, was very other than the simple Christian life of a sensitive student retired from the world and beyond the suspicions of evil doing.

He buried himself in all the metaphysic subtleties of the school-men, but found nothing answerable to his own experience. He searched the record of dreams, but found nothing accordant with the coherence and wonderful vividness of his own brief visions, which commanded so much of time, so much of human thought, life, action, and yet were so momentary upon the dial.

Sometimes he half feared his mind might be quivering on the darkened steeps of madness, and he again and again was conscious of even unwonted clearness of memory, and ability to follow the severest sequences of logic, and the most abstruse and difficult mathematical questions.

Waking, he began to recall his dream-life with something like dread, not knowing where the next vision might land him; but he continued to note all in his journal with religious honesty, as mental phenomena, not to be concealed and lost because they might open the gates to dangerous speculation. He was a man desiring truth in the innermost soul, and this unwonted experience already had opened his eyes to perceive how fearfully and wonderfully we are made, and how little the ordinary modes

of thought fathomed the grand, sublime capabilities of the human mind.

He saw that even to man, no less than to the infinite and eternal Creator, a thousand years might be as one day and a thousand days as one year. He reviewed the chronologies of nations, once ruling and preëminent, now dwindled to insignificance, and saw how modern limitations of thought retarded the spiritual progress of the race. The Mosaic days became periods of evolution, ages of material forces working the way for intelligent mastery. The scales of prejudice fell from his eyes, and the possibilities of the race grew into resplendent certainties. Earth became indeed but the footstool of the undeveloped man, who would lay aside the cumbersome impediments of the material body. to rise into a higher, nobler, and more beautiful existence.

A thousand lives embraced in one—untold affinities linking him to all times; habits of thought by which the living present is coeval with the eternal past—affections, passions, hopes neutralizing space and ignorant of time.

Plunged in endless speculations, yet always enlarging his sphere of thought, the Professor was still sorely vexed in mind when he opened his eyes to the reality of his every-day existence in this era of the nineteenth century. He could not disguise the fact that he, the timid, conscientious Professor, living up to all the requirements of society about him, society at once critical and exacting; a simple-minded man, doatingly fond of the lovely Cora, subscribing to all the abstruse doctrines of an austere sect, no sooner closed his eyes than he was a rollicking young hunter, held in check by a companion of more years and better manhood than himself, and madly in love with a sensuous but beautiful Pagan, who openly worshiped the symbolic sign of Paganism.

How was he to reconcile the austere morals of to-day with the license of by-gone ages? How account for the gorgeousness of imagination that seized upon and filled out forgotten and dead splendors of decayed civilization in the mind of one whose exact and severe modes of thought precluded all rioting in the regions of fancy!

Sorely perplexed became the good Professor; he now no longer delighted in his visions. The soft eyes of Cora seemed to reproach him for his admiration for the lustrous orbs of Zalinka. Was the spirit pervading the fair and willful girl of to-day finer than the instinctive tenderness, and unquestioning faith, and devoted passion of the sex in the years past and forgotten? What

had he, the husband of Cora, to do with questions like these? What had he, the plain, simple Professor, slightly bald upon the head, with no great chivalry, and no gallantry of character, to do with a gorgeous creation like the resplendent Zalinka?

Where was the propriety of the law, where the safety of society, if it could not protect a man from closing his eyes and violating all its prohibitions and setting at naught all its decorums? If progress is only the piling up of vast and obliterated experiences in the human soul, where is the great cry for a perfect and understandable moral code?

The Professor walked the room sorely perplexed in mind and heart. Sometimes came the exulting glow arising from the vivid memory of his dream-wife, and all the splendors of their tropical dwelling, amid flowering acacias and overhanging palms, jasmine and honey-suckle, aloe and rose and lily, and the rich voice of Zalinka, unmarred by one tone of discord, and her lovely face lifted to his, beaming with smiles and devoted tenderness.

Then he reproached himself with falsehood to Cora, and while he thus thought she entered the room and arranged her curls at the steel mirror, or took a ring from her finger and playfully hung it on the Professor's nose; and then Mrs. Pyncham's voice was heard without in sharp reprimands of Bridget; and a dusty mat was hurled past the window, and Cora was called away to see the cobwebs on the ceiling and the dust in the corners, as if there was any pleasure in looking upon them, and as if they could not be removed in quietness.

"I'm ashamed that a child of mine should keep such a dirty house! It's a sin and disgrace; and how any body can bear to see cornering furniture I don't know! Not a chair set straight in the house! and Miss Electa born and bred a Shaker, where every thing is straight as a poker and clean as a pin, to take no notice of such doings! Dear! dear me!" This from Mrs. Pyncham.

Hearing this Cora reddened, and went out and begged her mother to come out and look at the lately-fledged canaries; three worm-looking creatures with enormous mouths, over which the parents kept a storm of anxiety and care, and this diversion of interest greatly mollified the asperities of Mrs. Pyncham, who adjusted her "front" and resumed her mittens, leaving Bridget mistress of "Saturday's cleaning."

The Professor writes, "I could not but rejoice that in all my dream-life, I had no memory of a cleaning or a washing day. There was no

dust, no petty discord, nothing that defiled, nothing like shame, nothing like discontent. Surely, this Pagan life must have had its charms."

"Now that Paul Stearns has taken Patience Grant to wife," he writes, "and indeed it is well, for the beauty of the girl was very great, and attracted very much attention to her, and it was better that she should be cared for by a resolute and really fine fellow like Paul, than run the risk of doing worse. Sister Electa designs to 'start upon her travels,' to quote her own playful words. She has an irresistible desire to visit the great natural wonders of the country, and at some time, the places hallowed by great men and women and noble achievements.

I do not know what better she can do, for she will have a noble thought or wise word for every one who may come within the sphere of her observation, and yet my mind is not clear in regard to here and similar cases, if similar can be, and the sex holds many of so lovely, so high, so serene a nature. To me it seems as if she ought to marry and command a household. I do not find it easy to regard a woman in any other light than as wife and mother in our country, for as yet my ideas are retrospective, and I see little more than by the 'stern-lights of the ship' experience. Still, sure am I that in this stage of existence there is no relation higher or more beautiful than that of the family, and that within it are sown the seeds of human perfection and national greatness."

Thus wrote the pure, simple-minded Professor, and it will be seen that modern ideas are shooting forth in directions quite divergent from that tranquil intelligence and divine tenderness, no less than authoritative wisdom, which seemed to him not the ideal of sex, but that of humanity.

Again he writes, "I have several times of late been startled to find myself so inclining to the structure of verse, that my mind pours itself in rythm, with wonderful force, expressing itself in that way in a manner which I had thought foreign to my character, with a fervor and eloquence quite beyond myself. I perceive too a vision within a vision, which wears the aspect of prophecy. It would be strange indeed should my dream-life cease to be retrospective.

CHAPTER XXVIII.

THE DREAM-LIFE ENDED.

TO the wish expressed by Rodman that I had put a ball through the head of the serpent, I replied,

"'I must own frankly to you, old friend, that so far from desiring to kill the creature, I felt a delight in reading the language of his skin, and the wonderful head with the mystic and awful word thereon inscribed, filled me with a devout sense of the untold and hidden majesty of Him who ruleth in the universe.'

"Days succeeded nights, and still we floated onward, Zalinka and I. The simple fruits of the earth supplied our wants, and the honey of the wild bee gave delicious sweetness to cates made by Narita from the roots of the agave. The softness of the air, the solemn beauty of the stars, the ever-varying scenes of lofty hill and pleasant valley, the loveliness of the flowers, and the lofty grandeur of the trees, filled our whole souls with soft, almost divine emotions.

"'I have traveled down them rivers,' interrupted Rodman, 'and can understand purty well how it was with you, so suppose you drop the highfalutin, for I kind of want to know how you and the gal come out. Go on.'

"As I said before, day after day passed without weariness, and every day Zalinka endeared herself more and more to my affections. Solitary as seemed our lives, she so filled it with her lively fancies, her never exhausted graces of mind and person, that it seemed to me that I should be contented to float on and on, till our bark of life should float adown the river of time and be lost in the vortex of the eternal sea. Zalinka sang her hymns to the gods with a fervor that added new charms to the perfection of her wondrous beauty.

"At length our boat floated into a clear lake, an enlargement of the main stream, and into this poured several tributaries from the mountainous regions that hemmed it in, while the river itself flowed onward to the sea. Hardly had our bark touched the strand, when we were surrounded by a multitude of people who gased on us with admiring wonder. The men and women were of fine stature, with regular and handsome features, girt with robes made of the silky texture of a plant native to the soil. The children were entirely naked, and of exquisite beauty.

"They surrounded us in silence, and at length all prostrated themselves at our feet. Rising, they beckened us to follow them to their village, where were the principal personages of the tribe. We complied, and found a group of huts constructed of poles, and in the center a mound not many feet high, upon the top of which basked a large serpent. Seeing this, Zalinka quickly approached and knelt, lifting her eyes to the sky above us.

"The people were now wild with delight, and it soon appeared that their dialect was known to Narita, and partially so to Zalinka, before whom they knelt as to a superior being.

"Immediately they set to work and built us a dwelling far superior to any they had built for themselves, and brought hither the choicest possessions of the people.

"'You don't mean to tell me that you staid there, George!' cried Rodman, casting his pipe on the ground. 'You don't mean to say you staid among them heathen, and took to a heathen life, George?'

"'It is true, Rodman; I did not leave them until a very great sorrow compelled me to depart.'

"'I've always noticed that when people are bent on their own destruction, they're sort of driven out of their bad quarters. I expected to hear you at least convarted the gal to Rible notions, and then took her home and married her with your mother's blessing, and all that sort of thing. Go on.'

"To tell the truth, Rodman, I just staid there and married Zalinka after the usages of her own people, and I may as well own up, I never cared to go back to society at that time. When the morning came, all the people were at our cabin, and we went forth to meet them, Zalinka spreading out her arms in adoration of the great luminary, which so well symbolized the all-giving God.

"When at night he sank behind the mountains, the people again came to listen to her song to the great God, a worship far beyond what they had ever before known. Seeing that the inhabitants often robbed and deceived each other, Zalinka taught them sublime lessons of justice. In this, I am glad to say, I also did my part, urging them to kindness, mercy, and strict justice.

"Zalinka taught the women many arts before unknown to them, conducive to health, purity, and comfort, while I taught the men how to cultivate the soil, and how to improve their habitations. The people were gentle, simple, and teachable, and soon a great improvement was wrought by our means. Our lives glide onward so tranquilly, so full of simple content, that I confess to you, Rodman, all my past life seemed forgotten in the supreme felicity of the present.

"'Well, well,' retorted Rodman, 'I suppose it is in the power of a woman to change the whole natur of a man, they can do any thing they once set their hearts on, more's the pity! Go on!' While Rodman said this he picked

up his pipe and smoked away mechanically, without any enjoyment of the act.

"It is not necessary to further describe this my golden era of love and happiness. The soft salubrious climate, the simplicity of the people, the tenderness of Zalinka, all that could soothe the nerves to tranquillity, all that could content the heart, much to stimulate thought, and elevate and refine the mind, all combining to render even existence one long summer day of ease and refined enjoyment. How long it lasted I have no means to determine; it was a state in which setting suns, the changes of the seasons, the planting of seeds or gathering in of harvests had no part. We existed; we were blessed. If shadows intervened we saw them not; if pain or suffering had an existence we were not cognizant thereof. The daily prayers, the simple song and dance, the contemplation of nature filled up the bright days, and where happiness was on every side the rule, and pain the exception, we scarcely noted its presence. Song, blessed days full of content, soft, smiling, peace-

"'Yes, yes,' interrupted Rodman; 'I see the and is coming; you kind o' like to think over the pleasant time before you tell how trouble come. I suppose such things must come to an end; it's nat'ral. Well; tell it in short, old boy.'

"'Yes, Rodman, the end came. How, or why, my beautiful Zalinka should die, I know not. I only know she had neither grief nor pain, nor fear nor doubt. She smiled, and kissed me, and said,

"'Come soon, my beloved; I shall await thee at the golden gate!'

"And then she breathed no more!

"I heard the snowy bell-bird toll her requium, and saw the people scatter the earth with flowers, and Zalinka was covered with white robes and placed in a cradle of leaves and flowers, supported by a canopy of net, and the pretty receptacle swung from the branches of a giant palm, and there the night birds sang all through the hours of night, and the bell-bird and the dove built their nests at her feet.

"'A purty way to be buried,' said Rodman;
'I've seen that way often. I suppose they sort
o' dry up and blow away at last.'

"Zalinka had left me; but a little one, bearing on its tiny shoulder the mother's mark, lay in my arms. A creature strangely beautiful and wondrous premature it seemed, for, fixing its large, lustrous eyes upon mine, it would smile, and seem to understand me, and read my thoughts. "'How it was, Rodman, I know not, but I was not over sorrowful—it seemed a natural change, a peaceful transit, and I went forth, for methought the night had come, and while the people slept, I descended the great river in our little boat, and three miles below I found thee, my friend.'

"'I must say you took it easy, George; but it was an onnat'ral thing from the first, what I should call a relapse into heathendom. I'm glad, though, you did the gal no wrong; but lived up to her lights, for a man who is a man, has a pesky hard load to carry inside, who feels that he has wronged any critter that trusted him.'

"'I do not call myself a saint, Rodman, but I am no hypocrit. I never knowingly, that is, designedly, wronged a human creature, and where I have made any mistake I have not failed to amend it; but it takes a pretty good character to get through this world.

"That is true, George, and the better we are, the less able are people to understand us, and they always think that what is beyond their understanding must be bad.'

"'You did not tell what became of the baby; howsomever, we will defer that for another talk, for I'm thinking, George, it's time for us to pull up stakes and back to the settlements. I shall hunt the buffalo out west awhile, but I think it's time for you, who can do some honest, human work in the world, to go back and do it. You're a dear good fellow, George, weakish, but that's easy accounted for by living too much in houses, with carpets and cooks, and other weaknesses.'

"I flushed, as was natural, at this unceremonious handling, and we both shouldered a pack and trudged on."

CONCLUSION.

The Professor rasely wrote out his dream at a single sitting. The journal was intermingled with household details, incidents in the way of his profession, tender thoughts of Cora, and her gentle, playful, girlish womanhood; records of Sister Electa, whom he called Sibylline in character; commendations of Patience and Paul Stearns, and even half querrulous complaints of the crossness of Mrs. Pyncham. This awfully pious woman seemed to sandwich herself between the Saturday's cleanings of the Professor's house, the Monday washings, Tuesday ironings, and every-day miscellanies of cook-stove and scrubbing-brush, all conducted with an immense vigor, noise, and scolding, and the monthly concert of prayer, the conference meeting, the lec-

ture and prayer meeting, so that the shadows of evening relieved the family of much tumult, as the worthy Widow wended her way to some one or other of these methods of grim recreation, several times in a week. She passed most of her days with Cora now, keeping her old quiet dwelling as a dignified appendage to her widowed state, in which old chairs, tables and china, though of no great value in a pecuniary point of view, were of immense importance as proof and records of gentility. Hence the rooms were duly ventilated, the chintz coverings duly washed, starched and ironed, and several times in the year sundry elderly ladies and infirm gentlemen were hospitably entertained with green tea and hot biscuit, fresh butter and raspberry jam.

"Cora gradually learned to let her mother fret and scold, and order herself and Bridget to her heart's content, well knowing that in her heart the widow was proud of her, and outside of the house talked of the Professor as the greatest man alive, although inside of the same, she spoke of him as little better than an idiot. Cora always declared that but for Sister Electa, she would have been one of the most hateful, vain unendurable creatures that ever lived; but Sister Electa was so wise, so sweet, so sympathetic with every body, saw so much to approve even in the worst, and found a reason and excuse for every fault in them, either in the weakness of the person, his poverty, his loneliness or misfortunes, that somehow it seemed as if a golden beam came straight from heaven, and rested upon the poor stricken head, or the comfortless heart.

"'I wouldn't have Sister Electa married for the world! Cora would exclaim. "She would only bless one, then, and now she comforts so many."

Having premised this much, we turn to the journal of the Professor, and extract a last record for this our veritable history, in the course of which we, baving settled each one so far as human beings are ever settled in this world, we shall close our book. The Professor writes in this wise:

"There had been some noise and hurry in the house. Bridget, who never steps on her toes, planted her feet with the firmness, and somewhat with the jar to the house of a young elephant, intent on some movement requiring speed. Several women went about the rooms, their faces expressing an anxious delight. Mrs. Pyncham, having encountered me in the hall, pushed me by main strength into the library, exclaiming.

"'That is the place for you!"

"As if I had been a felon, and was justly confined to my prison cell. I must have dropped at once into my dream state, and the death of Zalinka, at the same moment, which I have already recorded, and I proceed now to relate what transpired.

"I do not know when Mrs. Pyncham entered the library. I was suddenly conscious that she was approaching me in a state of much excitement, her 'front' lopped down over one eye, and a baby in her arms, which she laid in mine, repeating in a loud, laughing voice,

"' Now you just mind what I say, and live up to it, Mr. Lyford,

"' First a daughter, then a son; Then the world is well begun!"

Here's as fine a daughter as ever was seen; so far so good; now mind!'

"She then laid the baby, a perfect mass of laces and embroidery, and a strong smell of new flannel into my arms, and hearing somebody call 'Mrs. Pyncham, Mrs. Pyncham!' as if in a great hurry, she left it there.

"I peeped into the flannel and lace, and by a sort of instinct looked at the little lump of a shoulder. There was a slender, ruby mark upon it. I hastily applied a mycroscopic lens, and surely the shape was that of a delicate serpent, such as I had seen upon the shoulder of my dream-child."

Several years later he writes:

"My dream-life seems to have suddenly come to a close with the birth of my first child, which Cora would name Zalinka. Since then, several children brighten our household, and I am happy to say that the second, in obedience to the injunction of my mother-in-law is a boy. All the children are handsome and perfectly healthful, but Zalinka is of wondrous beauty, and in a thousand ways, as her mind and person develop, reminds me of that beautiful Dreamwife who has had so much to do with my moral speculations, and my metaphysic doubts. My oldest boy, a bold, straight-forward, singularlyresolute, and generous-minded child, with a composed and penetrating mind, I have named Rodman."

THE END.

Dr. Johnson used to say that there were many things worth seeing in the world but faith like a grain of mu grow glad again, through clieve that numerous as may be the things good beginning.—Robert Collyer.

to eat, there are none worth going to the conventional dinner party for—and I find great solace in the thought that if you went you would most assuredly not get them there.

CHILDREN AND CHILDHOOD.—It is very good to me to notice how much of the hope of the world is made to depend on the children that are resting in the future, but are sure to come, and to bring with them some great blessing and help. The world moves on; the generations come and go, each bearing its own burden and fulfilling its own destiny; and to every one there is allotted a certain share of sorrow, and the failure of hopes and expectations. But, like a strain of clear quiet music running through a tumult of clashing discords. the promise of the children to be born, who shall do what the fathers failed to do, runs clean through the generations. The hope of humanity, the promise of the world to come, on this planet, rests in the children. When the Spartans replied to the king who demanded fifty of their children as hostages, "We would prefer to give you a hundred of our most distinguished men," it was only an expression of the everlasting value of the child to any commonwealth and to every age. The had been defeated, but their hope was that the children would conquer; they had done their best, but their children, they hoped, would do better. Sparta would rise again from the cradle and nursery: the new hands would do the new work, and the fresh inspiration. And so, in the hope that still shone for Sparta, fifty children were of more value than a hundred fathers.

It was a truth that every age has in some way to learn. It is in the next new life that God hides the next new thing the world needs to carry on its work. The time comes when great discoveries stop short of their consummation for want of a new man, and no more new discoveries are made; when the church is certain to fail for want of a new apostle to refresh the old truths, or to announce the new; when the great movement that began with one reformer will thin out, like circles on the water, if it can not be taken up and carried on by another; and when no new reform can find a man to storm us with great burning words, and stand for it. Length of life and weight of wisdom never do it. When a great man dies, and a nation weeps for his untimely end, if we had but faith like a grain of mustard-seed we should grow glad again, through our tears, for a timely

A Good Name.

BY REV. HENRY WARD BEECHER.

GOOD name is one which, when mentioned, awakens among those who hear it honoring thoughts, lively emotions of pleasure, respect, gratitude, confidence, and even love and enthusiasm. A good name is not a dry, leafless thing, like a plant in an herbarium—the faded remembrance of beauty. It is a living, energetic force. It leaps forth, and stands before you like a presence. It is, in short, the impression which your real life has produced on the judgment, the heart and imagination of men who have known you.

A man's name is subdivided just as his life is, and he has a name relative to the department in which he is acting. Thus, one has a good name as all artificer, another has a good name as a companion, another has a good name as a parent, and another has a good name as a citisen, according to the sphere which they occupy; but in each particular sphere, what constitutes a good name is that character and conduct which shall represent the highest moral idea belonging to that sphere. Men always praise up, not down. It is for the thing in each sphere which excels, aspires, and looks toward superiority, it is for the highest moral elements in every department of life, that men esteem and honor you.

When your life is consolidated, as it were, and your character resulting from your conduct in all spheres is formed so that it produces a uniform and constant impression upon the minds of your fellow-men, then the whole of your life is represented in your name. It represents all the good that there is in your business relations, social relations, household relations, and civil relations, each forming a separate element, and all, like so many words in one sentence, reading you a just and true and good man.

Whatever men may excuse in themselves of weakness and dereliction, they always judge their fellow-men by the highest moral standard which belongs to their time. And so they will judge you. They will judge you by the degree in which your love exerts a real, living, moral influence upon them.

The materials themselves which build up a man's name must be those which build up a real good nature. You can not build a house and have it long unknown what materials constitute it. If you build it of poor materials,

time and use will certainly reveal the weakness of them. Still less can you build a character of poor materials and not have it quickly appear. For pretences can serve-but a little time. In a long run, nothing of a man's life acts except that which is true. If the thing that is in you is good, truth will bring it forth; and if it is bad, truth will bring it forth. Although you may deceive yourself in this regard, your nature will speak out. As a general thing, men report themselves upon their fellows at what they really are. Usually a man's reputation is what he is.

The materials, then, which go to make one's name, must be good materials, such as are fit to build a man for the functions and duties of life; and these materials must not be like the furniture of our shut-up parlors. As men sometimes have in their house a well-furnished room which they never use except on state occasions, when they entertain friends, with stiffness and formality and sumptuousness; so men have certain imaginary and heroic virtues which they keep in their romance-chamber, and in which they like now and then to dress themselves. But, after all, it is those qualities which we use every day, it is those articles with which our living-room is furnished, that go to make the impressions of men about us. The things that we use, that go with us in all the variations of ordinary life, and that show our average thoughts and feelings—these are the materials which are operating in the production not only of our character, but of the shadow of it which men have, and which constitutes our name.

And the materials that go to make a man, not only must be those which are used, and used every-day, but they must have endured so long, and been put to so many tests, that men have no doubt of their reality and truth. Then it is that men have been tried and found to be not wanting, but constant to themselves and to their ideas of rectitude; that they have established for themselves that name which the inspired monarch declared to be greater than riches.

This is the very point which in this age of the world needs to be made. I have no doubt that a man having succeeded, is thought to be a great deal better off if he has succeeded with a good name; but there is, especially among those who are not largely endowed with moral.

feeling, or who are deficient in moral discrimination, an impression that a man may very materially barter his moral qualities and character for a certain external and civil success, and be the better for it. There is a thought that it is good for one who does not succeed in life to have a spotless name; but there is a feeling that there is an adulterated morality which is better than genuine morality, as gold adulterated is better than gold in its pure state. It is supposed that if a man does not go to extremes, if he does not touch devil nor angel, he may find between them a convenient medium by which he may make his life more successful than by any other means. This is a false and mischievous notion. Nothing is comparable to a good reputation based on the reality of things.

All motives turn on the element of happiness. There is not a faculty which, acting right, does not act toward happiness. No man that acts can dissociate himself from this fact. All through life we seek enjoyment—if not low, sensuous enjoyment, then intellectual enjoyment, enjoyment of taste, or enjoyment of the moral feelings. And if you give a man wealth, he can not out of that wealth create for himself the satisfaction of enjoyment; though, if you deprive a man of wealth, and give him a good name, he can, notwithstanding his poverty, create for himself that satisfaction.

If a man, in making his money, has lost his good reputation, he has put himself beyond the power of enjoyment. I have seen the proof of this. In the course of my ministry, it has been my duty to preside over not a few that were very rich; and I have known that they who made themselves rich in such a manner as to forfeit the confidence of men, and to excite the revulsions of men toward them, were miserable men. Their lines of latitude were misery, and their lines of longitude were misery. From pole to pole, from the equator either way, and round and round the orb of their being, there was any thing but satisfaction. I think the most miserable men I ever saw were rich men. and nothing else-men who have burned up every thing in them that was good, in order to make wealth. They had generosity when they began, but generosity is a spendthrift. It helps men with the right hand and with the left. Generosity in a man who is determined to get money, is like a gaping seam in the side of a ship, and must be calked up. Magnanimity is soon inconvenient to those who are determined to get more; and so it is cut down, as a tree is cut down by the roots. Large tastes, besides being expensive, consume time

by diverting the attention from money-making pursuits; and it is a maxim among men who are determined to be rich, that although fine things and things refining may be well enough for some, a real business man must not allow himself to be turned aside by them.

Now, when a man's heart has become hard as granite, do you suppose moss will grow on it? When a man has spent forty years in forming habits antagonistic to his higher nature, do you suppose he will go back and cultivate that nature? When a man has sacrificed his opportunities for learning, for research, for the intercourse of his mind with things full of pleasure, of thought; when he has sacrificed every thing in him that is noble; when he has proposed to himself the getting of wealth as the one great object of his life, and when for forty years he has unremittingly pursued that object till he is borne down by cares and anxieties and harassments, do you suppose he will change his whole course, and seek to recover those things which he has sacrificed?

Often and often have I seen men sacrifice their reputation in the pursuit of wealth, who, when they acquired it, were disappointed. It did not yield them the satisfaction which they expected it would. For a man of property and nothing else, is like one shut up in a vast mansion without a companion. He walks through the solitary halls and various apartments, listening to the sound of his own footstep. And the vaster the ranges of the mansion, the more and he is. We can bear to be alone in one room better than in a large castle with many rooms. And when a man sacrifices every thing that is noble in his nature to amass wealth, he walks up and down the passages of prosperity a miserable wretch. The enjoyment of a man does not depend upon how much he can control, but upon the fiber of his own being. You could not ascertain the power of an instrument by measuring its square inches. It is only by the quality of its chords and tubes that its power can be ascertained. And it is not what a man holds in his hand, nor that by which he is surrounded, but the quality of the chords of his own soul, that determines whether he is canable of happiness or not. The man who cultivates generosity, magnanimity and taste, and walks so that the sun and stars, and all the endless things which, has pleased God to create on the face of the earth, and all the functions of the mind, are but so many skillful touches of his heart's chords, may be happy though he has nothing but his own life. Such a man has no need of wealth, or any thing that wealth can

yield. He has already a treasure that is unfailing.

I have seen men who, after going through life and sacrificing every thing that they might acquire knowledge, at last, worn out and miserable, said, "I would give all the knowledge I have acquired for good digestion." I have seen wealthy men, whose walls were covered with pictures, whose libraries were stored with the accumulated learning of ages, and who lacked nothing for which taste could ask, but who, with their gouty foot lifted up in a chair, cursed God, and wished they were dead. And, if

where a man is diseased in stomach and nerve and liver, no wealth nor art nor knowledge can make him happy, what can make a man happy whose soul is diseased, and whose inward nature has been drunk up by the fever of unrest and ambition?

If a man has a good name, as the representative of his character and life, he has all those things which make life happy. He is content with himself, he commands the respect of his fellows, and he is at peace with God. Living, he is blessed; and dying, he leaves radiance behind him.

Growth and Development, - Concluded.

BY ARCHIBALD MACLAREN, OF THE OXFORD GYMNASIUM.

THE TRAINING OF PRUSSIAN AND FRENCH SOLDIERS COMPARED WITH THE ENGLISH.

THE main features we gave of the French system—a system of bodily exercise, but not a system of bodily training; based on, in many respects, erroneous principles of physical oulture, yet productive of great benefit, physically and morally, to the soldier; with much that is useless, much that is frivolous, much that is misplaced and misapplied, and much that has no claim whatever to be admitted into any system of bodily exercise, military or civil—yet, upon the whole, national in tone and spirit, and, as has been proved by the avidity with which it has been practiced, not unsuited for the men for whom it has been organized.

I have gone thus far into the principles of these two systems, because they may be said to embody those of all continental nations where ever a series of bodily exercises has been adopted for the distinct purpose of physical training. In pointing out the errors, shortcomings, and inconsistencies of these systems, it will have been apparent that they all spring from one cause—the absence of any clear theory of exercise itself, of any clear comprehension of what it is, of what changes it effects in the human frame, or of its mode of accomplishing them. It is now many years since I was impressed with this conviction; for before the formal adoption of either of the two last mentioned systems by their respective Governments, the elements of which they are composed were known and irregularly practiced. I was impressed with the conviction, that until a theory of exercise based upon a knowledge of the structure and functions of the body, and in perfect accordance with the laws which govern its growth and development, were formed, no system of bodily culture, civil or military, deserving of the name, could be established.

The system which I advocate is the result of my professional life-developed and matured by every means which I could bring to bear upon it by physiological theory or practical test. The period of its preparation extends over nearly a quarter of a century, for during that period I have been, as it were, standing in the midst of a living stream of men and boys flowing in from every school, public and private, in the kingdom; youths possessing every degree of physical power-presenting every phase of physical weakness. On these, by these, every exercise in the system has been tested; its nature, its character defined, and its results ascertained, its place in the progressive courses slowly and carefully determined.

When called upon therefore to provide a system of bodily exercise for the Army, I had but to add a military application to this educational one; for, whereas the purely educational system stops at the first aim, viz., the cultivation of the body only, leaving the after-use of this power to be determined by the individual wants of the possessor, a military system should be two-fold, aiming first at cultivating the body to its highest attainable capacity, and then at teaching the

manner in which this physical power may be applied to professional purposes.

A military system of bodily training should be so comprehensive that it should be adapted to all stages of the professional career of the soldier; should take up the undeveloped frame of the young recruit as he is brought to the depot, and be to him in all respects a system of culture—a system gradual, uniform, and progressive-a continual rise from the first exercise to the last, in which every exercise has its individual and special use, its individual and appropriate place, which none other can fill, in the general system—a system of exercises which will give elasticity to his limbs, strength to his muscles, mobility to his joints, and above all, and with infinitely greater force than all, which will promote the expansion of those parts of the body, and stimulate to healthy activity those organs of the body, whose fair conformation, health, and strength will double the value of all his after life; which will give him the vital stamina that will be to him a capital upon which he is to depend, and from which he is to draw at all times, at all seasons, and under sall circumstances of trial, or privation, or toil. This should be the great object to be aimed at in the early stages of the system; the strengthening, the developing of his body, muscle and joint, organ and limb; make him a man, and as a man give him power over himself. Give him that, and you give him the Malakoff of the position; the activities, the dexterities of the art will fall into his hands.

And then, but not till then, should the practical application begin—an exposition, earnest, ample, and varied, which will show him how every article of commonest use may be utilized on emergencies to important purposes, how obstacles of every form and character may be surmounted, and how burdens of every size and shape and weight may be borne; which will show him also—and he will now see without much showing—how every exercise in the system has added something to this end, contributed something to this attainment, two-fold in its character, single in its object, to strengthen the man in order to perfect the soldier.

Thus the military aspect of Gymnastics has retained its importance in modern times. On the Continent and in England the military authorities have been the first to recognize the importance of systematized bodily training, and a military application of the advantages to be derived from bodily strength has thus preceded its educational or civil one. It formed, as we have seen, the bona fide military training of the youth

of Greece and Rome. In modern times it was adopted by Germany to increase the value of her fast-diminishing soldiers at a time when the land was drained of its youth and of its manhood to guard the frontier. It was adopted by France from the love of activity and dexterity inherent in her sons, and their eagerness for all that tends to cultivate these qualities; and it was adopted by our own military authorities from, I think, equally national characteristics, on the strong representation that it would contribute greatly to the health and strength, moral and physical, of the army. Slowly and cautiously was this adoption made, and on confirmation of its value it has been introduced and is being carried out with a completeness unequaled in any country or at any time.

What may be called the material means of the system are being provided with no less completeness. At every military station, gymnasis, planned on the fullest consideration of the peculiar requirements (as I have conceived them to be) of such buildings are being erected and carefully fitted up with every form of appliance to secure safety and efficiency, so that in a few years, at the present rate of advancement, every station will be provided with its gymnasiumnot the frail and meager out-of-door erections of other countries, but large, airy, and substantial buildings; each of a working capacity proportionate to the barrack accommodation of the station—in other words, suited to the number of men quartered there.

An important principle in this system, a principle perhaps the most important of all, has been that it shall be conducted by instructors properly qualified and supervised by officers regularly appointed and personally and practically acquainted with the system. This also has been carried out with equal method and completeness. Two detachments of non-commissioned officers, under command of the officer selected by the authorities to direct its introduction and conduct its future extension—an officer specially selected for his high qualifications for the difficult work of introducing into the Army a new and hitherto entirely untried institution-were sent to Oxford to be qualified as instructors, and thence removed to Aldershot to form a normal school for the preparation of other teachers, and form the center of the military gymnastic system.

Now if all this arrangement and method were considered necessary in the organisation of the bodily exercise of full-grown men—men of mature frame and hardy habit, and at the period of life when all the physical energies are at their highest point of power, at least as much precaution and forethought and method, it would be expected, would be adopted on its administration with boys and girls at school, whose frames are all incomplete and impressionable in the highest degree—capable of being affected for good or for evil by every surrounding agency.

It should be clearly understood by every one intrusted with the care of youth, that nothing can be put up in the form of actual apparatus which would be either useful or safe without adherence to a regular system, and the instruction and supervision of an efficient teacher. And I would warn every one so intrusted and contemplating such erections that little but evil can spring from neglect of the caution. I do so with an earnestness which I could only feel, and with an emphasis I could only use when the good to be obtained was at best but trifling and uncertain, and the evil to be hazarded great and undoubted. For what but evil can accrue from the untaught, undirected efforts of a group of boys, strong and weak indiscriminately mingled, gathered around the cluster of perilous machines sometimes erected in a playground and styled a Gymnasium; the strong improvising tricks which have nothing to recommend them but their danger, the weak emulating the strong? And the evil which is most to be dreaded, viz., strains, is precisely the evil which should not occur—the very evil which with properly administered gymnastics could not occur-which in my entire professional experience, with the thousands of young and old, weak and strong, who have passed through my hands, has never in the smallest degree occurred -the very evil in fact which should be prevented from occurring in other exercises, even by the resulant benefits of these, because by them the parts liable to injury on effort would be strengthened and an inherited liability removed; for the universal law regulating growth and development is paramount here—the natural and suitable exercise strengthens, the false or undue exercise weakens and injures. I repeat, falls and broken bones are not the evils to be dreaded from these hazardous exertions. Falls are seen, and broken bones can be mended; the thing to be feared is the strain from sudden, unregulated, or over-stimulated effort: an evil which at the time of its actual occurrence may never be known, or if known, concealed, for the young have a dread of such incapacitating injuries, but which whether concealed or revealed, understood or misapprehended, felt late or soon, will surely appear; it may be to mar the hope and the happiness and the usefulness of all the life to come.

But, it is said, boys have not the time for such systematic bodily culture. It might be permitted perhaps to say in reply that boys have the time for any thing which is found desirable or necessary for them to do or to learn, and I have been endeavoring to show that the culture of the physical powers should occompany the culture of the mental ones, if we would cultivate either to the greatest advantage—that is, cultivate them in accordance with the laws which determine the growth and health of both. But let us see how much time is required for this purpose—for this duty, let me call it. Let us see how much time is occupied by it where the system is (and has been for several years) regularly practiced—at Radley College, and at Magdalen College School for instance. The whole school is separated into three divisions, formed by age, health, strength, and physical capacity generally; each division has one regularly appointed day in each for its lesson in the Gymnasium; each division again, on the day of the lesson, is subdivided into three classes, the boys of each class being determined on the same principles as those which regulated the primary divisions, but with a still closer regard to individual capacity. Each separate class on the day of instruction, having its own teacher, is conducted by him through the course of exercises appointed as suitable for it. By this means, as all the boys in a class are of similar capacity, the exercises being suitable to one are suitable to all; and by the same rule every boy in the school is virtually receiving instruction and practice in that course of exercise most suitable to his individual requirements. This is the regular lesson, but on occasions of wet or inclement weather, or when deprived of their expected recreative exercise, boys may attend the Gymnasium as a voluntary class on either of the other lesson-days.

Now what is the actual demand made here upon a boy's time? One hour per week. And this, under ordinary circumstances and under ordinary conditions of health and growth, is all that is required.

In our day if gymnastics mean any thing—that is, any thing worth the serious thought of parent, teacher, or pupil—they mean a gradual, progressive system of physical exercise, so conceived, so arranged, and so administered, that

it will naturally and uniformly call forth and cultivate the latent powers and capacities of the body, even as the mental faculties are developed and strengthened by mental culture and menta

exercise.

Infant Mortality in France.

BY B. P. EVANS.

F the material prosperity and real power of a people, says M. Le Fort, depend upon the number and strength of the arms devoted to labor and upon the skill and intelligence directing them, Frenchmen may well be anxious for the future welfare of their country. Statistical reports prove conclusively that the relative power of France, so far as it is based on population, is constantly on the decline. The simple fact that England doubles her population in fifty-two years and Prussia in fifty-four years, while France requires one hundred and ninetyeight years to effect the same result, does not open a very encouraging prospect for la grande nation, that has hitherto regarded itself as the center of European civilization, and the arbiter of war and peace on the continent. Chief among the causes, that have contributed to this lamentable result, is the excessive mortality of young children, a subject that has recently excited a lively public interest, engaging the attention of all classes of society, and calling forth discussions in the corps législatif and disquisitions in the academy of medicine. Doctors and legislators have combined their wits to ascertain the causes of the acknowledged evil, and to devise some effectual remedies for it. During the last thirty years the rate of infant mortality has been constantly increasing. The reports of the Minister of Agriculture and Commerce, show that from 1840 to 1845 sixteen per cent. of the children born alive died before reaching the age of twelve months; from 1855 to 1864 eighteen per cent.; and during the year 1865 nineteen per cent. Thus in France about one child in five dies before reaching the age of one year, without counting the still-born children, which amount to nearly five per cent. of the total number of births, legitimate and illegitimate. Looked at from a philanthropic or patriotic stand-point, this is by no means a pleasant picture, and can hardly be said to reflect much credit upon our so greatly lauded progress in sanitary science.

The report of M. Blot, Secretary of the Committee of Investigation appointed by the Academy of Medicine, traces the extreme mortality of infants to the following causes: 1. Constitutional weakness caused by poverty and want, to which M. Chauffard in the corps législatif adds, "And too frequently debauchery;" 2. The sometimes inevitable, but very often volun-

tary and unjustifiable neglect on the part of the mother to nurse the child; S. Ignorance of the most simple and elementary rules of physical education and dietetics for infants, and the prejudices of all kinds that result from this grow ignorance; 4. The very general and very dangerous abuses that are practiced in artificial nursing, which is always inferior to maternal nursing; 5. Premature feeding, which is not to be confounded with dry-nursing, although always more or less associated with it; 6. Absence of necessary hygienic cares, and especially the exposure of infants to the cold while being conveyed to the homes of the nurses; 7. The want of medical care during sickness; 8. The want of regular medical inspection as regards the health of wet-nurses and their ability to take care of infants; 9. The exposure of infants by requiring them to be brought to the mairie or town-hall for a declaration of births; 10. The culpable carelessness and indifference of parents as regards their children sent out to nurse; 11. Too long delay in vaccination; 12. The limitation of the business of nursing to a too small number of places, as a consequence of which the supply of wholesome milk in these places is unequal to the demand; 13. The large number of illegitimate births; 14. The various forms of infanticide. Such in brief are the causes of the evil as enumerated by the com-

The remedies proposed are: 1. To ameliorate the physical and moral condition of the people; 2. To promote, as much as possible, the nursing of infants by their mothers, first, by granting such temporary aid to needy mothers as will enable them to devote their time to their own children, and, secondly, by creating among the wealthier classes a sentiment in favor of performing this now neglected duty; 3. To diffuse sound hygienic principles, especially as regards the care and nurture of infants: 4. To render more strict and efficacious the administrative and medical surveillance of children put out to nurse in the country; 5. To introduce throughout all France the verification of births in the houses of the parents, instead of requiring the infants to be carried to the town-hall for this purpose; 6. To favor vaccination within a few weeks after birth; 7. To encourage a wider distribution and apportionment of the children sent out to nurse; 8. To establish by law the

regulation of this occupation on a medical basis; 9. To encourage the formation of general societies and local committees of inspection for the protection of infants and the prevention of their being put into the hands of incompetent nurses; 10. To award prizes or grant extra recompense to devoted and deserving nurses, to prosecute cases of notorious neglect, and to punish them as homicide whenever they result in death, and to regard as guilty of murder the women who, with criminal intent, cause to perish slowly the infants committed to their keeping; 11. To improve the means of conveying infants put out to nurse to their destination. In addition to these and several other remedies proposed by the committee in their report to the Academy of Medicine, the legislative body also suggest the necessity of modifying the social and legal conditions which now tend to increase the number of illegitimate births. In order that our readers may better appreciate the force of the facts here presented and the urgency of the reforms proposed, we will give, on the authority of M. Le Fort, a brief account of the manner in which infants are commonly reared in France and the many hardships of their tender years. In consulting the general statistics of the subject, the first thing that strikes us is the remarkable difference in the death-rates of infants in the different countries of Europe. In England this death-rate is fourteen per cent., in Belgium fifteen per cent, in Holland nineteen, in Prussia twenty, in France twenty, in Austria twenty-five, and in Bavaria thirty per cent. Yet notwithstanding the higher percentage of infant mortality in Austria and Bavaria, the population of these countries increase far more rapidly than that of France. Two causes contribute to this rather startling result, viz., the conscription which delays the period of marriage and by taking away the most vigorous men to fill the ranks of the army, leaves those who, by reason of deformity or debility, are unfit for military service, to marry and propagate their kind, and, secondly, the average smaller families of the French, due to a variety of social influ-It is also a significant circumstance that in England and Belgium, where the mortality is least, mothers of all classes are in the habit of nursing their own children, or, when this is not possible, of using a nursing-bottle, but only in very exceptional cases are infants separated from their parents. In Bavaria, on the contrary, where the maximum of mortality is found, young children are usually confided to the Kostfrau, who stops their hungry cries with a little linen bag filled with a mixture of bread,

milk, and sugar, a very defective kind of nourishment. The Parisian mother, who can not or will not nurse her own offspring, either takes a nurse into her own house, or sends her children into the country. The former method, however, presupposes spacious lodgings and considerable pecuniary resources; the latter method necessitates the separation of mother and child for a period of eighteen months or two years, and has been practiced by families in moderate circumstances for the past five or six centuries; at least as early as 1350, King John published a decree, regulating the socalled Industrie Nourricière, and fixing the wages of those by whom it was carried on. The principal managers of this kind of "industry" are styled recommanderesses and meneurs. recommanderesses are the women who keep in Paris a bureau, to which application may be made by persons desirous of obtaining nurses, or rather of securing situations for their nurseling. The meneur is a sort of recruiting officer or traveling agent, who goes from village to village enlisting nurses and conducting them in squads to the metropolis, directing and counseling them in their arrangements with families, and finally accompanying them to their homes in the provinces with their infant charges. Thus he is a very important personage, the pivot upon which the whole machinery rests and turns. It is also his duty to visit the nurses' homes from time to time, in order to assure himself that the infants are alive, and report to the bureau in Paris. Dr. Brochard in his work on the mortality of infants in France (De la Mortalité des Nourrisons en France) describes this class of managers as coarse, uneducated men, who often add to their ostensible occupation of providing nurses for the Parisian bureaus, the still more lucrative business of recruiting girls and women for other establishments of the capital. Furthermore, as they receive from the bureaus a fixed sum or premium for every nurse that they bring to l'aris, they are naturally more interested in the quantity than in the quality of them; indeed, from a pecuniary point of view, incapable or cruel nurses are the most profitable and are consequently preferred, since the sooner the infants die, the oftener the nurses return to Paris in search of new innocents to murder, and the more frequent are the rewards which they bring to the meneur. The whole proceeding, as set forth by M. Le Fort, is substantially as follows: The meneur journeys from town to town, ascertaining what women are about to become mothers, calls on them, and offers his services in

case they should desire to take a child to nurse. As soon as the list of applicants is large enough, the meneur obtains from the authorities the necessary certificate, makes up his convoy, and starts for Paris. It is almost superfluous to say that such a motley throng is very far from being a school of good morals, and that especially after their arrival at the bureau, the most honest and sincere are liable to learn lessons of deceit and depravity from their more hardened and experienced associates as they gossip together concerning the petty mysteries of their profession. In summer their sojourn at the bureau is comparatively comfortable, inasmuch as they can walk about and breathe the pure air; but in winter it is simply disgusting and horrible. Imagine, crowded into a small room, usually situated on the ground floor, twenty or thirty nurses, among whose vices can not be reckoned the excessive use of the bath, and as many nurslings all more or less suffering from the inconveniences incidental to their helpless and irresponsible age. To the sour and pungent odor arising from this condition of affairs, add the "fumes of undigested wine," and the flavor of all varieties of soups which constitute the chief article of food of the women and sometimes of the children, and the result is a combination of scents, more offensive than ever issued from the hell-broth, seething and bubbling in a witches' caldron. Now and then the door opens to admit a customer, and immediately the nurses are called up in order to be inspected, the poorest being put forward first, because after these have been disposed of, it will be a matter of no great difficulty to get employment for the best ones; the principle in accordance with which the business is conducted, may be stated in brief, as first come, worst served. It is for the interest of the manager not to have any left on his hands, so as not to lose his commission and the expenses of the journey. The method of determining the competency and "lactiferous capacity" of the mother, is by examining her child as to its freshness and healthfulness. But this test is often evaded, and a mother whose own offspring is poor, puny, and diseased, borrows for the occasion the more vigorous and prepossessing child of an obliging companion. Finally, after the object of the journey has been attained, and each one has a child committed to her charge, the meneur re-forms his caravan, settles the bills, and starts for home. As a matter of economy, nurses and children are packed into a thirdclass car, and, if the distance is long and the night cold, the child is chilled through by exposure to currents of air, contracts pulmonary

disease, and dies soon after reaching its destination. Frequently, too, the nurse lives remote from the railroad, and is conveyed to her village in one of those ancient vehicles, the very name of which has long since dropped out of the carriage-maker's vocabulary; it is a sort of big, rude jaunting-car, or old omnibus, cut in two horizontally; sometimes it consists of an immense wicker basket on wheels, or simply a large truck. Into one of these conveyances the nurses and children are crowded pell-mell and driven off, bumping and jolting, exposed to the wind and the rain, the snow and frost of winter, or the scorching heat and stifling dust of sunmer. French peasants, with characteristic wit, give to these vehicles the sinister and significant name of purgatory, because, as they say, then is no quicker and surer way for the infants to be transported to the abode of angels. M. Is Fort thinks that they might be more appropriately called hell. At length, however, the journey is ended and the nurse enters her home, where her husband and friends are assembled, anxious not so much to see the child which is to be a member of the family for the next two year, as to inquire about the pecuniary prospects of the case, and to discuss the probable amount of The children of the household the spoils. gather around the cradle, and look with words at the so finely dressed baby which their mother has just brought from Paris. But with the adult members of the family the first questions are: How much do the parents pay? Are they rich? Did they seem to be generous? Did they give nice presents? Has the child a good supply of baby-linen? The next step is to confiscate all the best and warmest clothes of the Parisian infant for the benefit of the nurse's own child. According to the agreement, the adopted child was to have all the nurse's milk, but in a few days the sucking-bottle is brought into requisition, and before long the poor child is fed on broth and slops of various kinds, all equally indigestible; and instead of taking it into the fresh air, as was stipulated, it remains all day in its cradle under the care of a little girl or an old woman, while the nurse is working in the field or the vineyard. Meanwhile: correspondence is kept up with the parents in Paris, the principal object of which is to obtain supplies of clothing, sugar, soap, etc., all of which articles are applied to general household purposes as soon as they arrive. In these letters there is always good news about the child, its rosy cheeks and robust health are enlarged upon, until one day, when the parents begin to look forward to the time of their infant's retarn

the startling intelligence of its sudden death is received, or, if they are fortunate enough to have it restored to them alive, it comes back to them a poor, thin, sickly creature, its body covered with sores and eruptions indicative of corrupt and impoverished blood, and its physical system undermined and ready to succumb to the first attack of disease. In order to comprehend how such things can happen in spite of the official regulations that govern "the nursing profession" (as it is styled), it is necessary to understand the temptations and facilities for fraud and falsehood, and the arts employed by these women to attain their ends. In the first place, certificates are obtained from the authorities under false pretences. Thus instances are cited of women holding certificates to prove that their youngest children are only a few months old, when in fact they had not given birth to any children for six or eight years. In the second place, they are forbidden to take more than one child at a time to nurse, but by false representations they succeed in getting two, three, and sometimes four into their possession, and bring them up with pap-spoon and sucking-bottle. Of course, there are frequent and honorable exceptions to these cases of mercenary neglect and cruelty. How many times, says Dr. Brochard, have I seen nurses give to the adopted infants the clothing of their own children and continue to nurse them for months after the expiration of their term for which payment had been made, not wishing to wean them prematurely nor to send them back to Paris, lest they might be less happy with their parents than in the house of their adoption. I have seen poor women, he adds, who did not hesitate to increase their cares and expenses, by taking the little strangers permanently into their own family circle, rather than to permit them to be provided for as foundlings, and who, under all circumstances, showed toward them the loving kindness of true mothers. But such examples of conscientious affection, although not rare, are not sufficiently numerous to alleviate perceptibly the misery and mortality caused by the multitude of selfish and unprincipled persons, who make merchandise of infant flesh and blood.

During four years past, the Academy of Medicine has had this subject under consideration, collecting facts and suggesting remedies. As usual the doctors disagree, and are divided into two widely differing parties, one of which, represented by M. Devillers, might be called the party of action, inasmuch as it advocates increased strictness in the regulations, and

greater severity in the penalties for transgression; the other party, represented by M. Fauvel, is the party of laisses-faire or do-nothingism, maintaining that, since the impotency of interference has been demonstrated, the best thing is to let the evil oure itself. In asserting the futility of legislation in this matter, the do-nothings seem to be supported at least by clear and unquestionable historical facts. In spite of King John's ordinance of 1350, the parliamentary decree of 1611, the letters patent of Louis XIII in 1615, the letters patent of Louis XIV in 1655, the parliamentary decree of 1705, the royal ordinance of 1715 and 1727, the "sentence du Châtelet" of 1756, the ordinance of 1762, the edict of 1769, and the various decrees that were issued during the French Revolution, and the laws that have been enacted from that time to the present day, the problem of suppressing the evil or of mitigating its malignancy is as far from a solution as ever. Theoretically, the system appears to be as well organized, the administration as perfect, and the medical inspection of both nurses and infants as frequent and thorough as could be desired; and yet, according to M. Husson, the grande bureau of Sainte Apolline, which is commonly regarded as the best in its rules and regulations, and the most exact in the execution of them, continues to lose by death one-third of the infants committed to its keeping. With the lesser bureaux the mortality is much greater, amounting in some cases to forty-eight per cent., or nearly one-half. These fearful facts, and many others which might be adduced, all go to prove the inadequacy of mere law-making and official surveillance in eradicating or checking this monstrous canker which is gnawing at the roots of the nation's life. Even laissez faire, or the principle of let-alone, could not produce more frightful results. Only one remedy, says M. Le Fort, remains to be tried with any prospect of being effectual. It consists in knowing the truth, in appreciating the full extent and inevitable tendency of the evil, in making every citizen understand the great interests at stake, and in creating a public sentiment strong enough to abate the nuisance. As a general rule, it is the duty of every mother to nurse her own child; but unfortunately women of the higher and more wealthy classes frequently possess constitutions so delicate as to render the performance of this duty impossible, or at least difficult and dangerous. On the other hand, women rich in health very often live by manual labor, and the nursing of a child is incompatible with their daily occupations. It is the testimony of physicians, however, that the great majority of cases, in which mothers neglect to nurse their children, are not due to either of these causes, but to entirely different motives, in which social considerations, love of ease and amusement, and especially custom or the dictates of fashion play an important part. In these respects, says M. Le Fort, the Parisian husband is more culpable than his wife; for it is too frequently at his desire and importunities that she renounces what a Frenchman calls "the last act of maternity," and gives her infant into the hands of a hireling. With the dangers of artificial nursing, the perils of premature feeding are intimately associated. The digestive organs of an infant, for the first four or five months after birth, are intended to digest only milk either from the breast or from a sucking-bottle. Any other kind of nutriment burdens its stomach, disarranges its digestion, and produces rapid decline. It is this regimen that proves fatal to so many Parisian infants, when sent into the country and treated in the manner already Readers of Dickens will doubtless described. remember Mr. Pumblechook, and the solemn and impressive tones with which he used to say to Pip, "Be grateful, boy, to them that brought you up by hand." Little Pip hardly knew as yet what the expression meant, he only knew that his sister, Mrs. Joe Gargery, who brought him up, had a hard and heavy hand, and was much in the habit of laying it upon him. fate of this young orphan of "the marsh country," who, according to his own confession, was always dealt with as if he had insisted on being born in opposition to the dictates of reason, religion, and morality, and against the dissuading arguments of his best friends, is a typical example of the unhappy destiny of those who are "brought up by hand." The opinion of most French physicians is decidedly unfavorable to this method of rearing children, but Dr. Le Fort, who as surgeon to a foundling hospital, is an authority on such points, does not agree with his colleagues in pronouncing it "absolutely injurious," provided a proper sucking-bottle is used. The gutta percha mouthpiece is extremely hurtful, and should be unhesitatingly discarded; but with the use of an ivory mouth-piece, and with great care in cleaning it, so that the fresh milk shall not become acidified and act as an irritant and a laxative, and thus produce the most deplorable effects upon the infant's health, a child of sound constitution may be brought up by hand without danger. In some portions of France, as in Alsatia for example, a pecuniary indemnity is

given to women who are obliged to support themselves by manual labor, provided, on becoming mothers, they nurse their own children, M. Fauvel strongly recommends the general adoption of this practice, as the best solution of the problem for the greater portion of the working classes. Other measures are proposed to meet other causes. Whether they will be adequate or not, can be determined only by a fair trial. The task is a very difficult one, but now that the enormity of the evil is fully appreciated, and the object in view is to save annually the lives of fifty thousand infants, we feel confdent that the philanthropic efforts which are being put forth by statesmen and men of science will be crowned with success.

From the account which we have given of the "nursing industry" in France, our readers may infer that French mothers are wholly void of natural affection. But this is by no means the case. Doubtless parents sometimes take this method of ridding themselves of their children, especially such as are born out of wedlock. The records of the chief bureau for 1864 show that of 1,416 parents who confided their infants with care, only 681 paid the monthly allowance of four dollars due to the nurse, or took any pains to inquire after the fortune of their offspring. In such cases the bureau allows the nurse at indemnity of two dollars and forty cents per month from its own funds, and after the laps of a certain time the child is sent to the foundling hospital. Generally speaking, the neglect is not willful and criminal, but arises from ignorance, from adherence to traditions, or from the force of circumstances. Making due allowance for the lightness, frivolity, and improvidence of the national character, French women are as tender and affectionate mothers as the of any other people.

WHAT MUSIC DOES TO WOOD.—Some authorities contend that the wood of the violin becomes changed in structure after being played upon, and is reconstructed on a finer principle, and for this reason a very old violin that has been well treated by refined playing can hardly be bought, because it has yielded up its original coarseness and obeys a divine law. When Ole Bull wished to repair his violin, he waited till one day some accident in the orchestra "killed" the double bass, when he secured a portion of the wood to incorporate in his instrument Military music converts men from a mob into a machine, and subjects their wills to the purpose of one enthusiastic moment.

In the Ante-Chamber.

BY HELEN L. BOSTWICK.

I. AM coming, Mother Nature;
I, thy hungering, bomesick creature.
In thy lone, sky coverts hide me;
Heal me, rouse me, soothe me, chide me!
With thy choicest breast-milk fill me,
With thy awsome voices thrill me,
With thy gentlest murmurs still me!
Give thy blessing, sweet my mother,
Since for me earth holds no other.

Keep your coolness, green, moist places; Hoard your hearts, gray sandy spaces; Mountains, vail your quivering verges; Lash your rocks, O pitiless surges. Let me taste, in fullest measure, Wilderment of doubt or pleasure. Fill me brimming cups, O Nature! Feed me full, thy starving creature.

Couch me soft in ferny closes,
Sweet of grape-flowers and wild roses; '.
Spread for me thy ample faring—
Corn and wine, and fruits unsparing.
Mix gold honey with red cherries;
Spiciest gums and bitterest berries!
Let all slumberous waters woo me,
Breezes kiss me, birds sing to me;
Swift rains drench me, winds affright me
Thorny scourges seize and smite me,
Pinkest mouths of flowers invite me!
Arms of lissome vines caress me,
Chill of cavern glooms oppress me,
Great rock-shadows stretch to bless me!

I am coming, Mother Nature,
Thy sore-pressed and wounded creature:
Hast thou compensations many?
Duplicated ne'r to any?
Whisper low to me, my mother,
Secrets thou dost tell no other.
I have grown so wise to share them,
I shall sure grow strong to bear them;

Tangled coils thou shalt unwind me; Birds in last year's nests shalt find me! Lift, green arches! gates of faery, Part before my footsteps weary! Of thy breast-milk, Mother Nature, Feed me full, thy hungering creature!

Influence of Athletic Sports on Health.*

BY ROBERT FARQUHARSON, M. D.,

Medical Officer to Rugby School, late Assistant-Surgeon Coldstream Guards.

THE possession of the sound mind in the sound body is rightly held as essential to the most perfect form of our physical existence; and to adjust evenly the balance between the two is a task whose importance rivals its difficulty. The undue development of intellectual, vigor, on the one hand, is well known to have a weakening and even destructive influence on a feeble frame; while, on the other, muscular superiority often attends mental deficiency. And especially is this study interesting in its relations to youth, at which golden period the power not only of man, but, may be, of future generations, is being stored up; and at this time it frequently happens that unbridled excess in either direction has an influence for evil which our most subtle calculations can barely estimate.

Now there is no question that a certain amount of exercise is necessary to promote the functions of life-that a proper allowance of muscular energy thus expended is of inestimable service in circulating the vital fluids, and stimulating the nervous system to rapid and efficient action. The mere book-worm who pores over his folios day after day, knows not the quickening and vivifying influence on the brain and body of copious draughts of oxygen, nor the great freshness imparted by the pulsation of newly oxygenated blood. He regards time spent in out-door pursuits as filched from the service of his mind; little knowing in his short-sighted wisdom, in what ample measure his work would thus gain in every useful direction. But should timely warnings at last impress him with the necessity of doing something to correct the evils of a sedentary life, his untaught efforts may only make matters tenfold

The late Dr. Andrew Combe has pointed out with great force, the disastrous results of attempting severe pedestrian exertion without due preparation, and relates several instances of serious illness from this cause; and Dr. Richardson, in an interesting paper published in The Social Science Review, gives his experience of volunteering in this relation. After narrating a painful instance of death resulting from cardiac derangement following a forced march, he sums up as follows: "It is my business simply and solely to indicate that the service, as it is now carried on, is too severe on the majority of overworked Englishmen, and that instead of imparting national strength it is certainly producing national weakness, by enforcing that aertion which in moderation would be greatly useful."

Exercise, therefore, to be safe and profitsble, must be moderate, judiciously timed, and carefully adapted to circumstances: in short, it is a medicine, which, like all others, is potent either for good or evil. The brain-worker, on returning from his constitutional, is often suprised to find himself fagged and overdone; but the fact is, that his muscles are relaxed by disease, and his mind, exhausted by toiling in intellectual grooves, has no vital energy to spare. And this explains why the healthful stimulus short of fatigue, furnished by home exercise, is so much appreciated by this class Animals, whose brains are only sufficiently developed to procure their food and carry on a series of semi-mechanical actions guided by instinct, are enabled to undergo a vast amount of fatigue; but, when their work is done, we see by the enormous amount of sleep they take, that their nervous systems require repose. A great increase in the power of sustaining longcontinued muscular efforts is met with in such

^{*} Recultly read before the Medical Society of London.

of them as are known to be thorough bred, in which a certain strain of pure blood has been fostered and handed down by judicious management. We can not bring them up to this point by any form of training alone; nothing could ever convert a cart-horse into a racer; but in man, education and the force of imitation may, under favorable circumstances, take the place of breed. Now, we must remember, in considering the effects of hard exercise on the constitution, that even under circumstances of the most apparently profound repose, the nervous system has a considerable burden to bear. The heart, lungs, and intestines must be furnised with the stimulus requisite for their ceaseless round of duties; the muscles must be maintained in their normal state of tension; while the sensorium proper must exert a certain amount of effort to prevent itself from sinking into coma. So that the brain and spinal cord can never rest; sleep only brings a very partial cessation of activity; for were these vigilant sentries to slumber for even an instant on their post, life must cease. And if to the strain which they already have at all times to undergo, we add a large and, perhaps, a sudden increase, the destructive processes will so far exceed those of repair as to necessitate exhaustion, decay, and disease.

The influence of the mind over not only our sports, but every form of active exercise, is a matter of common every-day experience; and, as Mr. Erasmus Wilson well puts it: "In mind lies the great secret of beneficial exercise; and, without it, exercise is a misnomer, and a fraud on the constitution." And how can this desirable combination better be secured than in those athletic sports to which the English owe so much of their national pluck, perseverance, and endurance? The Germans have long been noted for the perfection to which they have brought gymnastics: but, with this exception, they are a sedentary people, and I should be disposed to explain their astonishing powers of mental application rather by the great size of their brains than any other cause.

The French, again, are still less addicted to games, and in the pallid and anxious faces of their schoolboys we read the evil effects of a too exclusive application to book-work.

But, with a characteristic go-a-headness, it has been reserved for the Americans to develop conditions far beyond other nations in their hygienic unwholesomeness. Living habitually in close, stove-heated rooms, bolting their food at railway speed, and partaking freely of alcoholic drinks, not with their meals in aid of digestion, but at all odd times of the day, can

we wonder at their inferior physical development, or that their active minds frequently devour their bodies. Their University of Harvard, closely modeled as it is in many respects on the sister Cambridge of England, has not yet reached the pitch of civilization necessary to appreciate the benefits of exercise, and Sir Charles M. Dilke thus writes on the subject:

"Rowing and other athletics, with the exception of skating and base ball, are both despised and neglected in America. When the smallest sign of a reaction appears in the New England colleges, there comes at once a cry from Boston that brains are being postponed to brawn. If New Englanders would look about them, they would see that their climate has of itself developed brains at the expense of brawn; and if national degeneracy is to be long prevented, brawn must in some way be fostered. The high shoulders, head, voice, and pallor of the Boston men are not incompatible with the possession of the most powerful brain, the keenest wit; but it is not probable that energy and talent will be continued in future generations sprung from the worn-out men and women of to-day. The prospect at present is not bright; year by year Americans grow thinner, lighter, and short-lived."

And the consequences of this system were instructively displayed by the great international boat-race, in which the American crew were beaten purely on account of want of staying power.

Now contrast with this melancholy state of affairs, the sound health and perfect condition of a typical specimen of our public schoolboy or university man. We see in his clear eye and fearless look the spirit which animates his wellknit frame; and this excellent piece of humanity has been built up by the proper balance of mind and body, by the due adjustment of intelligent exercise to progressive mental work; and while his muscles are braced up, he has had the invaluable moral training of such combinations. Boating has taught him obedience and loyalty to his leaders; cricket has made his sight as keen as his arms are strong; while football has given that sense of coolness under emergency and that rapid decision amid conflicting circumstances which will stand him in such good stead in after life. The Duke of Wellington is reported to have said that the battle of Waterloo was won on the Eton playing-fields; and although it might have been more correct to give the credit to our village greens, where the real material of his army was . raised, the principle remains the same—that out-door sports have in great measure made the English people what they are.

How painfully different is the lot of girls in this respect. Compelled to study in close rooms, with little active exercise beyond the conventional regimental walk or some sort of stinted gymnastics, their frequently lowered tone, their craving for excitement, their occasionally morbid views of life and its surroundings, are readily explained. Things are fortunately not so bad as they were many years ago, when Sir John Forbes, writing in the "Cyclopædia of Practical Medicine," says: "We lately visited in a large town a boarding-school, containing forty girls, and we learned on close and accurate inquiry that there was not one of the girls who had been at the school two years (and the majority had been as long) that was not more or less crooked." But still there is ample need for enlightened improvement. The ball-room affords at the present time the only opportunity of active exercise to many; and, in spite of the disadvantages of late hours and hot rooms, I am convinced that the muscular exercise of dancing supplies to many a real want. hear much at the present day about the improved education of women; but it must be remembered that the more we assimilate their sex to our own in this respect, the more requisite will it be for them also to graduate in manly sports. Without cricket, or foot-ball, or rowing, it would be most unwise to tax the female brain with higher and harder work.

In the treatment of the insane, the value of modern enlightened improvement is nowhere better seen than in the great prominence now given to active employment; and any one who pays a visit to Hanwell or our other great asylums, must be gratified to see the inmates working eagerly at farm duties or other industrial pursuits. And among idiots the same principle has been most beneficially adopted. Dr. Langdon Down, whose ability and zeal have long made him our leading authority on all concerning this hapless class, has favored me with an interesting letter on the subject. He writes: "Great difficulty was always found in effecting the combination of idiots in games of play. There was always a want of spontaneity about them, and great efforts were required to induce a spirit of emulation. I took great pains to carry out systematic training in the playground and with some remarkable results. Those who made exceptional progress in this made coetaneous progress in mental character. There is among idiots a great want of muscular coordination, and at the same time a want of endurance of muscular fatigue. They were for the greater part people of low physique—succumbed readily to illness that others would tide over. Some were agile, but they were the exception, and at a game of 'French and English,' with intelligent boys of far less weight, they would be nowhere. They played at this game, at racing, skittles, jumping over horizontal bars, leaping, etc. Some were employed on the farm, but they always avoided physical exertion. I made a strong point in carrying out physical training part passu with the mental."

Now, as regards the proper dose, so to speak of exercise, every man, under ordinary circumstances, must be his own physician. Physiologists have calculated for us the amount of work which can or should at least be done by a healthy man: and Dr. Parkes states that such ought, if possible, to take a daily amount of exercise which shall be not less than one hundred and fifty tons lifted one foot, this being equivalent to a walk of about nine miles. But, as he remarks, "as there is much exercise taken in the ordinary business of life, this amount may be in ordinary cases reduced." Of course in diseased conditions we will usually be expected to interfere and lay down precise rules; but average people might as well weigh their ordinary meals as calculate by the inch or ounce how much their muscles ought to do. I believe a weakened heart may often be braced up by a moderate amount of exercise, for this may act medicinally-like digitalis, either paralysing or reinforcing cardiac energy according to its dose and mode of administration. I have seen several instances of boys who had been debarred from active exertion on account of palpitation, speedily loss all their symptoms on being permitted to rejoin their companion's sport; and a striking case recently recorded in the practice of Dr. Stokes, showed how a man suffering from intense dyspnœa, the result of extensive heart disease, only obtained relief by the violent exertion of running after a car.

But the unfavorable side of the question also demands some notice; and in devoting a few minutes to its consideration, we must recollect that muscular degeneration is frequently brought about by over as well as by under work. Dr. Chambers, in his clinical lectures, narrates some curious instances of this; one in which the arms of a blacksmith's apprentice became atrophied from wielding too heavy a hammer; another in which a lady nearly lost the use of her right hand by excessive sewing; a third where a literary lady over-exerted her-

self in mowing her lawn, and suffered from a painful loss of power in the right deltoid and biceps. It is not likely that any such dangers as these will result from our present system of athletic games; but there is too much reason to fear that their great increase checks mental progress, not only by (occupying time and energy, but by dulling the sharpness and clearness of the brain, and lessening the aptitude for concentration and real work. Within the last few years out-door sports have taken so deep a root, and have come to be considered by many as the most important features of our public school system, that there is now real risk of their being carried to excess. It is perhaps natural that boy hero-worship should run in the direction of his strong and active, rather than his intellectual companion; but when this goes so far as to lead to a double strain-when the natural division of the studious lad from the noted cricketer or foot-ball player is confused by an attempt to excel specially in both, then we find evil effects. There is, it is well known, a certain amount of compulsion exercise in our schools with reference to games, the heads of houses being empowered to order so many a week, and no one is exempt, save by an order from home, or the local medical officer. It may thus happen that a weakly lad, who is studious and anxious about his work, feels that playing takes too much out of him; he finds his working power fail, perhaps he does not get enough sleep, and in the end he breaks down. A wellmarked instance of this series of events came under my observation recently.

I was asked to see a boy of sixteen, who had suddenly been taken ill. I found him in bed, with a flushed face, pulse 120°, temperature 103° Fahrenheit, much headache, and confusion of ideas. He was naturally of a studious disposition; and having got into the sixth form at an early age, and being also head of his house, he was obliged to read hard and take a prominent part in foot-ball. He had been heard to express his belief that the double strain was too much for him; but though often entreated to relax in either direction, he would never do so. The evening before my visit he had a shivering fit, and passed a restless night, wandering and seeing imaginary objects; in short, his condition at this time somewhat resembled a mild form of delirium tremens. For five days he continued in a somewhat doubtful state; the fever ran high; the intellectual faculties were much obscured, and it seemed probable that more serious cerebral mischief might supervene; and even after all risk of this had gone by, giddiness and inability to concentrate his thoughts, and the very unusual excess of phosphates excreted by the urine, showed the serious weakening of the brain. Although his general health is now fairly reëstablished, he is still unable to make any approach to a resumption of head work. This is, of course, an extreme case, but one of a class which we must occasionally expect to meet with when both mind and body are strained almost to the extreme limit of endurance.

Let me now speak of athletic sports a little more in detail. And rowing certainly merits the first place, both from its intrinsic attraction and from the attention which has always been bestowed upon it by medical men.

A few years ago Mr. Skey startled London by a letter in The Times, giving a most unfavorable experience, and stating the insidious and cumulative effect which he thus believes to be produced on the heart; and Dr. Richardson, in the paper formerly alluded to, is not far behind in his condemnation. But, with all deference to these eminent authorities, I can not help thinking that they have overstated their case. Such exertions as they have so graphically described would be, and no doubt often are, injurious when rashly undertaken by persons of feeble frame; but we must remember that the length of an ordinary college race does not exceed a mile and a half, that rowing is seldom carried to any extent without medical permission, and that the perils of the great Putney course are much mitigated by the fact that the captains of the respective boats are bound, not only to select their crews with the most jealous care, but to eliminate at once any one who shows signs of breaking down during training. I have frequently spoken to university men on the subject, and they have usually been unable to recall any very palpable cases among their personal friends of serious effects thus produced. I am myself acquainted with several university oars who have borne their part in these great struggles without damage; and there are several well-known instances of the doubling of this with the blue ribbon of Cambridge distinction, the position of senior classic. Dr. Fraser of Endinburgh has published in The Journal of Anatomy and Physiology, a series of sphygmographic tracings taken on boats' crews immediately after their most violent efforts, and was unable to detect by the most careful observation any indication of any injurious amount of cardiac excitement. I think therefore we may fairly assume that the fact of indulging in even severe boating exercise does not lead to the inevitably serious results sometimes described.

Gymnastics, while they have the disadvantage of being conducted under cover, are valuable to many, as supplying their only possible form of actual sport; but after the frame is fully knit they must be employed with caution. About the time they were first introduced into the Army, I saw several cases of dilatation and great irritability of the heart's action caused by their incautious use among the recruits of the Coldstream Guards.

Running has always struck me as a doubtful form of athletics, from the great amount of strain thrown upon the circulating system. I have never observed any specially evil results, but have often seen the distressing amount of faintness and dyspncea experienced by lads after such efforts. Pedestrians are neither a healthy nor a long-lived race, and the recent death, from aneurism, of Richard Manks, England's greatest hero in this department, has a significant bearing on this point.

Cricket is a harmless game, but subject, of course, to accidents, like all others. I have seen one case of sharp concussion of the brain produced by the forcible meeting of two heads whose owners were running at the same ball; and another in which marked cardiac symptoms, indicated by faintness, dyspnea, irregularity of the heart's action and a distinct bruit at the base, were the result of violent exertion in hot weather. That these symptoms were merely due to relaxation of the muscular fiber, causing a species of temporary dilatation, was proved by the entire recovery of the patient under rest.

And now we come to foot-ball, the most important in some respects of all, for while other games are played on the uniform system, this changes its rule in almost every great school. My experience is solely derived from Rugby, where I have had the opportunity of carefully watching it effects during two seasons, and of treating the accidents which have occurred. I may explain that the system there pursued is for any one to pick up the ball and run with it if possible into the goal, the object of his adversaries naturally being to trip him up, or arrest his progress by any possible means. In former years much kicking or "hacking," as it is technically termed, used to be indulged in, and players then took the opportunity of paying off old scores on the shins of their enemies. The damage done to the tibia was at that time sometimes serious, or, at all events, troublesome in character. On my first arrival at Rugby, I was shocked at what seemed to my inexperienced

eye the unnatural roughness of the game, and felt convinced that serious accidents must be of frequent occurrence; but such is the elasticity of youth, that I can summon up by no means a lengthy record; and it may not be devoid of interest if, in a few words as possible, I venture to sum the medical history of foot-ball in my own experience.

The collar-bone has been fractured twice; the radius bent once; and one case occurred in which the two middle metacarpal bones of the left hand were broken by the fingers being forcibly bent backward.

Periostal swellings on the shin are not uncommon, but seldom give much trouble, and never go on to suppuration if treated with suffcient care. Sprains and minor contusions must necessarily be of frequent occurrence. Violent strains of the knee are met with, in which the limb is twisted forcibly outward, and where the resulting effusion is both considerable and obstinate. But what is more special to the game is the occurrence of small bursal swellings in the sheath of the quadriceps extensor tendon, exactly over its insertion into the tubercle of the tibia. It is surprising how much inconvenience this apparently trifling disability occasions, by weakening the affected limb and diminishing its kicking power. Merely palliative treatment by blistering and iodine seldom does much good; and, if let alone, they usually cure themselves by hardening, like the somewhat analogous condition of a curb on a horse's hock.

The nervous system does not often directly suffer. One lad, after falls on the head, has twice experienced the same train of symptoms, consisting of total loss of all recollection of the game and its attendant circumstances, lasting for several days. His memory in other respects is quite unimpaired, but this part of his existence is for the time effectually obliterated from his mind.

But about a month ago a very serious accident happened at Rugby, which, having been made the subject of pretty free public comment, requires no apology for being brought briefly under notice.

J. L.—, aged eighteen, was playing, as head of his house-twenty in a very keenly contested match, and being in possession of the ball, was set upon by the main body of his opponents, and thrown forcibly to the ground. His neck was bent forward with so much violence that, in the words of an eye-witness, his nose touched his chest; and, as it was soon discovered that he had sustained some severe injury, he was removed to an adjoining pavilion.

Happening to be on the ground, I saw him at once, and found him cool and collected, with a pale face and anxious countenance, and suffering acute pain at the back of the neck. Sensation and motion were entirely lost from the waist downward; but in a few minutes, on the effect of the shock passing away, feeling was restored, and he was conveyed to his house. I will now enter fully into the details of the case; suffice it to say that, in consultation with Mr. Baker of Birmingham, the injury was found to have been sustained somewhere between the fifth and seventh cervical vertebres; there being no trace of fracture, but evidences of concussion, with probable effusion of blood into or around the spinal cord. During the first few days there was almost total absence of thoracic breathing, combined with a distressing sensation of tightness round the waist; and grave fears were entertained lest inflammatory action, or a recurrence of hemorrhage, extending upward, might so affect the origin of the phrenic as to extinguish life. But this danger happily passed, power gradually became restored to his limbs, the left leg making much slower progress than the right, and the right arm being also considerably enfeebled; on the fifteenth day the use of the catheter could be dispensed with, and the bewels began to recover their healthy tone; and progressive improvement has gone on in so satisfactory a manner that he can now, at a period of thirty-two days from the date of the accident, use his legs as freely as the horizontal posture will permit. It has been judged prudent, as a precautionary measure, to keep him strictly at rest; but so far as present opportunities will permit the formation of an opinion, we have good hopes of his ultimate recovery.* The treatment consisted, in the first instance, of ice to the spine, followed by counter-irritation; subsequent to which he has steadily continued the use of five-grain doses of iodide of potassium, thrice a day. A liberal diet, with a moderate quantity of stimulants, was allowed; and, thanks to an excellent constitution, the lad's health has continued almost unimpaired.

The shocks and jars to which the brains and spinal cord are exposed by this mode of playing the game are considerable; for not only do the boys frequently fall on their heads, but there is much twisting and wrenching of the back. We might almost expect the injurious results to resemble those met with in railway injuries; and, though I have never heard of any such insidious secondary consequences, it is hard to suppose that the delicate nervous matter can thus be knocked about with impunity. A master in a large public school, who has given some attention to this subject, tells me that a well-marked difference is thus often made in boys as they grow up, and that he has over and over again seen the fine edge and keenness of talent word away by such rough usage. How far such effects can be produced without actual symptoms, and to what degree permanent diminution of nervous energy can result without sufficient change of structure to reveal itself outwardly, may be a question. The teachings of modern surgery tell us that in no case is concussion of the brain, however slight, unattended by some appreciable lesion; and the violent and oft-repeated falls and blows I have described, without going this length, may remove the delicate and subtile portions of the intellect by some gradual degeneration, too minute for even microscopic detection.

It is satisfactory to reflect, however, that the roughness and violence of these sports are softened down year by year; for custom and tradition have so hallowed many of their usages that he were a bold man who would venture suddenly to lay the axe to their root.

More Muscle for Woman.

BY DR: J. H. HANAPORD.

Coular Christianity," it is quite certain that one of the demands of the age is for more physical stamina, more development of the physical powers, more health for females. The importance of this, and the interest manifested

in every thing connected with such an improvement, are based upon their relative importance, and upon the fact that women exerts a controling influence in society, socially and morally, as well as physically. As she is, so will society be, to a greater extent than she may suppose.

^{*} He is now (March, 1870), able to walk about, and use his limbs freely.

"Like mother, like children," is as true as a similar saying in reference to the relations of pastors and people. Mothers necessarily entail their then present condition upon their offspring. The strong and vigorous are the mothers of a hardy race, while the puny transmit their diseases and diseasing tendencies in a most terrible manner and to a fearful extent.

The customs of society, the occupations of females to a great extent, and popular prejudices, are unfavorable to the physical culture of women. Those fabulous monster personages, Madam Prim and Mrs. Grundy, are already considerably "exercised" by some slight irregularities in the deportment of women. Any deviation from established forms and models, any breaking away from custom in the style of walking even, is regarded as an innovation, on the supposition that woman is under obligation to conform to certain regulations, to adopt a Parisian gait, a deviation from which is improper and unrefined. All of this restraint is calculated to enervate, cripple, and debilitate. Woman has muscles and she has a right to use them in a proper manner. They were given her for a good purpose, and there is no reason why she should ignore them or be ashamed to develop them. What if the great source of joy, light, and heat, the sun, should leave his seal of approbation on her brow, as she rejoices in his glad presence, inspiring the mountain air, vivified by his healing beams? What if she roams over hills, "catching a sunrise" on their craggy peaks, through the smiling glades, plucking the beautiful flowers, looking through Nature up to Nature's God, or in her rambles, or is pleased to run, leap, frolic, and rejo ce in freedom, developing, strengthening her hundreds of muscles, giving them hardness and firmness? Such exercise and such breathing of God's pure air, will benefit her as much as her coarser brother, and she needs it as much. What if her limbs become a little rotund, her hands enlarged, her brow somewhat bronzed, the artificial "brunette?" What if she should walk to church or on errands of mercy, to the distance of one, two, three, or more miles? She need not be ashamed of it, since such efforts will impart just the vivacity, suppleness, stamina, and endurance that she will need as she assumes the duties of maternity. The spiritwoman still remains, though her limbs may have become developed and her hands a little "brawny," less "delicate" and "artistic" than Madam Prim's model. Such vigorous and health-imparting recreations and labors will have a wonderful influence in dissipating the

"blues," if not much of the sickly sentimentalism of modern times. Such vagaries, dreamy visions, etc., are fungus growths, the outcroppings of an undeveloped body and a correspondingly undeveloped and abnormal condition of the mental constitution. A vapid body ordinarily enshrines a vapid soul. Each partaking of the characteristics of the other.

Woman's employments are too often unfavorable to the development of muscular power, and the consequent strengthening of powers of health. There is not sufficient play of muscular action. Many of her avecations, under existing circumstances, demand a sitting posture and fixedness of position. Sewing, for example, will bring into exercise but few of the nearly five hundred muscles of the body, the exercise of the few requiring comparatively little effort. The posture while sitting is almost equivalent to binding the muscles with strong bands, positively preventing freedom of movements. This posture is especially unfavorable in its effects upon the stomach, heart, liver, etc., resulting almost necessarily in some form of dyspepsia, liver complaint, or supposed derangement of the heart, which, oftener than otherwise, is but a stomach derangement, the sympathy of one with the other. The stomach is a very important organ, and exerts a potent influence, by sympathy, over the heart, liver, brain, etc. These employments are precisely calculated to cramp its movements, actually and positively preventing a certain movement necessary to healthy digestion. Hence, the headaches, the palpitation of the heart, the "sinking at the pit of the stomach," the constipation of the bowels, the indigestion, the "mind in the stomach," etc., resulting as naturally from these conditions as effects ever succeed causes. The same remarks apply to other employments, those demanding but little effort, little movement, not enough to circulate the blood, not enough to impart energy or secure vigor.

Woman needs a greater variety of employments, a wider rarge. It is true that ordinary "housework" affords quite a range, but there are comparatively few of the young ladies who are willing to engage in this highly useful and appropriate avocation, though, unquestionably, it is far better for the health than most of those sought by them. Some of the shops, the factories, the sewing machines, etc., are destroying the health of the future mothers, rendering them totally unfit to assume such relations. The objections to the sewing machine, it should be stated, do not relate to their employment in the family, but to constant employment in the

shops, to the unfavorable position, long-continued, the body demanding a change of posture. Rest consists more in a change of labor, calling a different set of muscles into action, than in a cessation of labor. Those whose avocations are of a sedentary character, would be materially benefited by a frequent brisk walk or run even, some effort calculated to improve the circulation of the blood, a matter of the utmost importance. This circulation is also very much improved by surface friction with a crash towel, flesh brush, or even the hand, such action being a kind of substitute for exercise, both being preferable to either alone.

Again, gardening is a very appropriate employment for females. It will prove an advantage even to the ordinary housekeeper, who may often suppose that she has sufficient exercise. It is a change, and will rest the seamstress wonderfully. If one wishes a "change of air," or of the "scene," it is not necessary to hie

away to Saratoga, Newport, the mountains, etc. -all well enough, perhaps-while a very important change is secured easily by taking the hoe, rake, spade, etc., laboring vigorously at the time when the birds send up their most musical notes of praise to the Omnipotent. Is your blood poor? Purify it by full inspirations of God's pure air, and perspire, throwing off the impurities of the body in Nature's way, by active labor in caring for your garden, and you have a better remedy than sarsaparilla. Have you a poor appetite? Take exercise first and you will be able to omit the "bitters." Are you weak? Use your muscles properly, not over-laboring, exercising and then resting, the only manner in which we can safely add to our strength, and you will reap the reward. Take full, deep inspirations, freely using the "good things of God," air and sunlight, thankful for such a bountiful supply.

Open the Door for the Children.

BY MRS. M. A. KIDDER,

PEN the door for the children,
Tendarly gather them in;
In from the highways and hedges,
In from the places of sin.
Some are so young and so helpless,
Some are so hungry and cold;
Open the door for the children,
Gather them in to the fold!

Open the door for the children;
See! they are coming in throngs;
Bid them sit down to the banquet,
Teach them your beautiful songs!
Pray you the Father to bless them,
Pray you that grace may be given;
Open the door to the children,
"Of such is the kingdom of heaven."

Open the door for the children,
Take the dear lambs by the hand;
Point them to truth and to goodness,
Send them to Canaan's land.
Some are so young and so helpless,
Some are so hungry and cold;
Open the door for the children,
Gather them into the fold!

Fathers and their Children.

BY MRS. H. C. BIRDSALL.

ROM the beginning of a child's life until he is fairly launched alone, the father's training is quite as important as that of the mother. In books and occasional articles upon the training of children, the father is almost invariably ignored; why I do not know, unless for the reason that he is generally less prepared by previous education than the mother for the performance of a parent's duty toward his children, and is therefore kept back by over-sensitiveness as to his fitness. Certain it is that very many fathers leave the government of their children entirely to the mother. And there are mothers who do do not wish otherwise, who have an incomprehensible jealousy of any one, even the nearest and dearest one, sharing their authority.

But the training of children, to be perfect, must be justly divided between the father and mother. The mother's duty comes first, of course, for God has made hen the natural physical guardian of the tender little ones, but the father's duty soon commences, and can not be neglected without the possibility of great harm to the future character of the child. When the first child comes, it is probable that every father at all worthy of the name feels some stirring of heart and hears an inner voice telling him of a work to be done. He has taken one step when he receives his helpless little baby in his armsnothing else will make him as tender-hearted as this, and induce him to enter upon the course he ought to pursue. What can be said for the man who deliberately refuses for weeks even to look at his child?

There are such men, and their indignation would be great if told that they were not good fathers, for are they not now at the head of families of boys and girls just as well-behaved as any of their neighbors? Behavior in which children may have been drilled is not always an index of their feelings.

The father can not postpone his care of a child until a certain fixed time, without losing some measure of the influence he ought to exert. No matter how awkward he may feel, he should lay aside all his sensitiveness, and often take his little one, partly to relieve the mother of her continual care, but quite as much that his knowledge of and love for the child may grow with its growth.

When the necessity for government arises, he should bear his part of the burden. He should not turn a child over to the mother for correction when disobedient under his care, neither should be usurp the mother's place. When one parent is engaged in reproving or punishing a child, the other should never interfere by word or look, except in the case of a mistake having been made in regard to the fault committed. All intercessions or remarks upon over-severity in the presence of a child, are apt to have the effect upon his mind which interference in a quarrel between an Irishman and his wife usually produces, viz., to arouse a storm, at least, of resentment, against the would-be peacemaker. Upon the conduct of husband and wife toward each other depends in a great degree the good behavior and the happiness of chil-

There must be perfect union between them. Day by day the beautiful promises of the marriage service should be put in practice. There is one word in the service to which I have referred, that seems to me to embrace all the rest. The husband solemnly promises to cherich his wife—the wife as solemnly repeats the premise. If the word cherish were understood in all its beauty and fullness of meaning, and the promise were made with a thorough appreciation of its solemnity and binding force, surely there would never be harsh words and dissension and resentment between husband and wife.

To cherich is first to hold dear (in the heart and in the house), then to treat with fondness, to treat with respect, and, rising in the scale, to encourage.

How comprehensive a word it is, its tendris of meaning twining themselves into and around the sweetest relations of home life! One parent should never be obliged to make excuses for the conduct of the other. Mothers frequently endeavor to keep their children from habits which the father daily practices. The mother, seeing in her boy the development of a taste for tobacco, tells him that she does not wish him to use it in any form. The boy looks up with clear, honest eyes, and asks, "Why does father chew to-bacco?"

The mother attempts to explain so as to make him feel that the use of tobacco is a very bed habit, and at the same time to prevent his losing any confidence in his father. It is a difficult matter, however, and any clear-sighted child will perceive that there is a difference of opinion between his parents, and they can not both be right. The use of alang words and phrases is a very common habit, thought of by many as hardly a bad habit at all. A child's sensibilities may become deadened to the wrong of bad habits, but they should not be so, any more than his physical taste for simple and healthful food should be vitiated by indulgence in gross and unwholesome diet.

If the father's pursuit is an out-door one, he should have his children with him, if possible, some of the time, for he may have little other time for gaining and keeping their confidence. If he answers their questions as to his occupation and talks to them in easy, simple style of the various subjects suggested by their daily intercourse, he may teach them very much. The father, if well educated, is peculiarly fitted to be the instructor of his children in certain branches; and, even if his education is deficient, a true desire for knowledge for himself and his children will enable him to learn and teach a great deal. It is my own modest opinion, and I hope the expression of it may not arouse any body's indignation, that those persons make a wholesale mistake who claim that women in general are capable of filling the places of men. That there are women who grasp some subjects in much the same way as men, and are as well qualified to apply them, is an indisputable fact; that such women need not be masculine in their appearance and characters, and that many are not so, is quite as certain. But such women are the exceptions, and it is only occasionally that we meet one in the ordinary circle of our acquaintances. There is an element in the true man's character which is and should be wanting in women, a certain something which can best be expressed by the word manliness. The woman on the other hand possesses womanliness, and the more freely developed these comprehensive qualities are in parents, the better teachers and guides they may be for their children.

The mother's nature leads her to particular and minute instruction, and the result, if she were alone in her great work, might be to make her children narrow-minded, but the father, looking at subjects in a wider, fuller way, can teach his children the habit of generalization. With the best of training, that which is conducted by both parents, a child's character may become well developed and rounded, deficient in no respect. When one parent fails in his or her duty, or is removed by death, of course it be-

hooves the remaining one to fill the place of both as well as possible, and this remark suggests a thought which I date back to a book read in my very early childhood, the Autobiography of Heinrich Stilling. There is much in the book that is interesting and instructive, but one that impressed me with peculiar force was the relation of the death of Heinrich's mother, and of his being cared for and trained by his father until quite a large boy. The time came when his father concluded that he needed help in his work, for he found his boy becoming dreamy, spending much of his time in an imaginary world of his own. He therefore took to wife a substantial, practical woman, with no appreciation of any thing superior to mere drudgery. She could not understand, and therefore had no patience with Heinrich's higher tastes, and the consequence was much unhappiness to Heinrich and hindrance to his success in life. The inevitable thought to the reader was, "How much happier both Heinrich and his father might have been if the latter had remained unmarried, and had himself performed the task of gently and gradually modifying his son's tastes!"

And my general thought or questioning is, Why is it that so many women losing their husbands resist all solicitations to marry again and devote themselves entirely to their children, and that men almost never adopt the same course? A very common answer would be. The father has a business, his children to provide for, etc., and in many cases the excuse would be a valid one; but there are men just so situated that they could give no reason better than that of incompetency, which usually means want of inclination. In the report, in The Christian Union, of an address by Dr. Peabody to the graduating class of Abott Academy, these words occur: "Certainly it is a matter of common remark how much nearer to the lives of her children a mother's influence penetrates than a father's." A remark like this, containing so much truth, is inclined to make one settle down in the conviction that the usual must be the inevitable, but most people know cases to disprove this conviction. It is our happiness to have known fathers who did their part in the training of their children well and nobly, and they have had their reward in the gratitude and love and veneration of their children, equal in every respect to the same feelings toward the mother.

The father's most common fault in the government of children is that of too great intensity, if I may so call it. If a child is slow in obeying or obstinate in resisting authority, the

father is apt to speak to him with such severity as to compel instant obedience, but at the same time to call up a look in the child's eyes which should never come there, a look which says, "The time will come when I won't have to mind you." The mother naturally tends to the other extreme. The style of each may be modified and improved by some imitation of the other.

When children have attained the age of ten or twelve years, there is little new to be attempted in their government. They have learned obedience; they have a regular routine of duties; they have pleasures of a simple, natural kind, and they are able to acquire knowledge by their own exertions, instead of having it all bestowed upon them by others. Thoughtless parents take comfort in the idea that their children are now "out of the way," and leave them to their own devices just at the time when they need more than ever society, sympathy, and occupation. The parents' duties, though they may not be numerous, are exceedingly important. Their children, should now begin to practice virtues from principle, as well as from obedience to their parents.

They should learn something of their relations to their fellow-men. The duty of the strictest, most unwavering honesty must be enforced by precept and example. Children had better never hear the old maxim, "Honesty is the best policy," unless all idea of the meaning of the word policy can be kept out of their minds.

Policy is subtle, creeping, snake-like, and children who learn to direct their lives by this misnamed principle, can not become the true men and women we would have them be. Honesty should be taught and practiced, as should all other virtues, because it is right in God's sight. Politeness of the kind so beautifully defined to be "true kindness kindly expressed," in place of hollow-hearted rules of etiquette, should be instilled.

The right sort of independence of opinion should be taught. That independence which exhibits itself in the tossing head and fling of the garments is the sorriest kind of folly, but that feeling which carries a child manfully through some difficulty, with no thought of what any one but God and his parents may think, is well worthy of his adoption.

If a child shows a taste for any particular pursuit, it should be watched and encouraged. Perhaps the girl has a fondness for experimenting in the cooking line; she should not be discouraged by being told of the imagined waste of material, but should be instructed how not to

She should commence with some article of food containing four ingredients and simple in its construction. Then the receipt should be told or given her, and she should be left to follow it out to the best of her ability. Or she may desire to cut and make garments. Whatever good taste she has should be encouraged. And so with boys. The father may mar the beauty of a whole life by trying to fit his boy into the position which has just suited himself, and it is one of the most common mistakes that fathers make.

When a boy is ten or twelve years old, it is not time for him to have any definite wish to go out into the world, but he may already show a liking for some pursuit and a distaste for that of his father, and he should not be sharply checked when telling of what he would like to be, but patiently and pleasantly listened to and advised.

Parents often, from the fear of their children becoming vain, speak to them of their looks and their attainments whenever they are mentioned, in a depreciatory way. This frequently engenders a habit of self-distrust and an awkwardness of manner which are distressing. As little as possible should be said of looks, but if a child has a fine face, it is better to tell him so honestly, at the same time speaking of it as a special gift of God, and to be preserved through life only by goodness of heart and life.

Many years ago, a lady looking at the daguerrectype of a little garl, in the presence of the child, exclaimed, with uplifted hands, " Why, what ears!" and added, "The child hasn't such ears, has she? Come here, child!" Then looking and laughing, she said, "Well, they are large; I never noticed them before." The lady probably never thought of the circumstance again, but the impression of there being something unusual about her ears did not leave the child until long years after. As a young lady, she was embarrassed in society, distressed at the thought of going into a room where there were but a few people, and she now says she can date all her diffidence from the remark upon her ears. Bashfulness must also be prevented, by having children frequently see something of society. Above all things, children should at this age feel the constant influence of love. It is a very awkward and angular age-boys are hobbledehoyish, girls lanky and disagreeable. They are very apt to encounter impatience and snubbing from older people, particularly if they are boys. Boys are specially inclined to think that their parents do not love them, and allow themselves to fall into habits which perfect confidence in their parents' love would keep them from.

Now, too, children's confidence may easily be diverted from their parents to their young associates. This will be indicated by their becoming reserved at home and by their impatience in waiting for their friends, that they may pour into their ears some secret plan or tale of wounded feelings. All this might be prevented if there were never any break in the confidence between parents and children.

Now the important question arises, To what kind of school shall we send our children?

Conscientious parents consider the subject carefully, weighing the advantages of a good boarding-school against those of home and a day-school, and very often a little fondness of display added to the boarding-school side weigh it down so heavily that the whole family of children is exiled from home that they may enjoy "a salubrious climate and all the advantages of home" where they will find the least of them. Those parents who do not train their children can not do better than to send them to a good boarding-school, for they will have there something of what they have missed at home, but the training of no boarding-school can begin to compare with the advantages of a real home, accompanied by regular attendance at a wellconducted day-school. By well-conducted, I mean a school with good, live, energetic teachers, who keep up with the times by reading and study, and maintain striot discipline by a simple system of rules without corporeal punishment.

It seems to me a bad sign for teachers en masse to request the restoration of bodily punishment. It has been proved, by long experience, that large schools, made up of both sexes, can be perfectly governed by the force of personal character, assisted by a few well-chosen regulations. Country places are often poorly furnished with schools. In such a case, the best possible arrangement is to have a private tutor or governess. For the parents can have a choice of teachers in this way, and may procure excellent talent and worth of character. They can also fix the number of hours to be spent in study, and other particulars which have their importance, and which they would not feel at liberty to mention, if sending their children to an established school.

If means are wanting to do even this, parents needing a teacher for their children can unite with a few other families who also feel the same need, and together they may obtain good in-

struction at no more expense than they would incur in sending their children to a poor school, where they themselves could exercise no per-This matter of personal sonal supervision. oversight is a very delicate one; it may be conducted so as to give no offense, but frequently it is injudicious and eccentric. I think that most parents will agree with me that the last-mentioned course is preferable to sending children away to boarding-school to spend the most critical years of their lives. For the next six or eight years of their lives are the most critical, and will determine what manner of men and women they shall be. And can we at this time, when the good seed that we have sowed is just springing up, send our children away from us, to see them but a few weeks in each year, and endure the risk of their being weaned from the love of parents and home?

We should insist upon our children having not more than three principal studies at one time, and that they shall only commence a new one in place of one of the three being thoroughly mastered. To accomplish this it is necessary to spend but a few hours of each day in school.

The time out of school should, some of it, be passed in active exercise, and it would be better if all study could be confined to regular school hours. It is painful to see little, young creatures spending their evenings in study, and rubbing their eyes open in a vain endeavor to arouse their flagging interest. Judicious parents will see that their children study in the early hours of the morning, if any extra study is required.

Children should look upon the authority of their teacher as absolute. If he is deficient in knowledge or governing power, or any qualities essential to the character of a good teacher, the parents should be the judges, and the children should neither hear nor make remarks upon the subject. If a private tutor or governess is employed, the employers should never give any advice or suggestions in the presence of their children, for the latter should think of the teacher as the only one to be consulted and obeyed during school hours. As soon as childrep are out of school, all responsibility of the teacher should end-it will be found better for both teacher and scholar. The tastes of children in regard to different branches of study There are should be judiciously consulted. children perfectly incapable by nature of acquiring a knowledge of music; others are quite as unable to learn foreign languages. The recognition of this fact would save a great deal of time, expense, weariness, and disappointment.

OUR STUDIES IN PHYSIOLOGY.

BY PROF. T. H. HUXLEY.

MOTION AND LOCOMOTION.

IN the preceding Studies the manner in which the incomings of the human body are converted into its outgoings has been explained. It has been seen that new matter, in the form of vital and mineral foods, is constantly appropriated by the body, to make up for the loss of cld matter, in the shape, chiefly, of carbonic acid, urea, and water, which is as constantly going on.

The vital foods are derived directly, or indirectly, from the vogetable world; and the products of waste either are such compounds as abound in the mineral world, or immediately decompose into them. Consequently, the human body is the center of a stream of matter which sets incessantly from the vegetable and mineral worlds into the mineral world again. It may be compared to an eddy in a river, which may retain its shape for an indefinite length of time, though no one particle of the water of the stream remains in it for more than a brief period.

But there is this peculiarity about the human eddy, that a large portion of the particles of matter which flow into it have a much more complex composition than the particles which flow out of it. To speak in what is not altogether a metaphor, the atoms which enter the body are, for the most part, piled up in large heaps, and tumble down into small heaps before they leave it. The force which they set free in thus tumbling down, is the source of the active powers of the organism.

These active powers are chiefly manifested in the form of motion—movement, that is, either of part of the body, or of the body as a whole, which last is termed locomotion.

The organs which produce total or partial movements of the human body, or of the fluids which it contains, are of two kinds: Cilia and Muscles.

Cilia are filaments of extremely small size, attached by their bases to, and indeed growing out from, the free surfaces of epithelial cells. They are in incessant waving motion, so long as life persists in them; and the motion of a cilium continues even for some time after the epithelial cell, with which it is connected, is detached from the body. Not only does the movement of the cilia thus go on independently of the rest of the

body, but it can not be controlled by the action of the nervous system. The cause of the movement of each cilium would appear to be the alternate contraction and relaxation of opposite sides of its base; but why these alternations take place is unknown.

Although no other part of the body has any control over the cilia, and though, so far as we know, they have no direct communication with one another, yet their action is directed toward a common end—the cilia, which cover extensive surfaces, all working in such a manner as to sweep whatever lies upon that surface in one and the same direction. Thus, the cilia which are developed the upon epithelial cells, which line the greater part of the nasal cavities and the traches, with its ramifications, tend to drive the mucus in which they work outward.

Muscles are accumulations of fibers, each of which has the power, under certain conditions, of shortening in length, while it increases its other dimensions, so that the absolute volume of the fiber remains unchanged. This power is called muscular contractility; and whenever, in virtue of this power, a muscular fiber contracts, it tends to bring its two ends, with whatever may be fastened to them, together.

The condition which ordinarily determines the contraction of a muscular fiber is a change of state in a nerve fiber, which is in close anatomical connection with the muscular fiber. The nerve fiber is thence called a motor fiber, because, by its influence on a muscle, it becomes the indirect means of producing motion.

Muscle is a highly elastic substance. It contains a large amount of water (about as much as the blood), and during life has a clear and semitransparent aspect.

Muscles may be conveniently divided into two groups, according to the manner in which the ends of their fibers are fastened; into muscles not attached to solid levers, and muscles attached to solid levers.

MUSCLES NOT ATTACHED TO SOLID LEVERS.

Under this head come the muscles which are appropriately called hollow muscles, inasmuch as they inclose a cavity or surround a space; and their contraction lessens the capacity of that cavity, or the extent of that space.

The muscular fibers of the heart, of the blood-

vessels, of the lymphatic vessels, of the alimentary canal, of the ducts of the glands, of the iris of the eye, are so arranged as to form hollow muscles.

In the heart the muscular fibers are of the striated kind, and their disposition is exceedingly complex. The cavities which they inclose are those of the auricles and ventricles; and, as we have seen, the fibers, when they contract, do so suddenly and together.

The iris of the eye is like a curtain, in the middle of which is a circular hole. The muscular fibers are of the smooth or not-striated kind, and they are disposed in two ways: some radiating from the edges of the hole to the circumference of the curtain; some arranged in circles, concentrically with the aperture. The muscular fibers contract suddenly and together, the radiating fibers necessarily enlarging the hole, the circular fibers diminishing it.

In the alimentary canal the muscular fibers are also of the unstricted kind, and they are disposed in two layers; one set of fibers being arranged parallel with the length of the intestines, while the others are disposed circularly, or at right angles to the former.

The contraction of these muscular fibers is successive; that is to say, all the muscular fibers, in a given length of the intestines do not contract at once, but those at one end contract first, and the others follow them until the whole series have contracted. As the order of contraction is, naturally, always the same, from the upper toward the lower end, the effect of this peristaltic contraction is, as we have seen, to force any matter contained in the alimentary canal, from its upper toward its lower extremity. The muscles of the walls of the ducts of the glands have a substantially similar arrangement.

MUSCLES ATTACHED TO DEFINITE LEVERS.

The great majority of the muscles in the body are attached to distinct levers, formed by the bones. In such bones as are ordinarily employed as levers, the osseous tissue is arranged in the form of a shaft, formed of a very dense and compact osseous matter, but often containing a great central cavity which is filled with a very delicate vascular and fibrous tissue loaded with fat called marrow. Toward the two ends of the bone, the compact matter of the shaft thins out, and is replaced by a much thicker but looser sponge-work of bony plates and fibers, which is termed the cancellous tissue of the bone. The surface even of this part,

however, is still formed by a thin sheet of denser bone.

At least one end of each of these bony levers is fashioned into a smooth articular surface, covered with cartilage, which enables the relatively fixed end of the bones to play upon the corresponding surface of some other bone with which it is articulated, or, contrariwise, allows that other bone to move upon it.

It is one or other of these extremities which plays the part of fulcrum when the bone is in use as a lever.

But to understand the action of the bones, as levers, properly, it is necessary to possess a knowledge of the different kinds of levers, and be able to refer the various combinations of the bones to their appropriate lever-classes.

A lever is a rigid bar, one part of which is absolutely or relatively fixed, while the rest is free to move. Some one point of the moveable part of the lever is set in motion by a force, in order to communicate more or less of that motion to another point of the moveable part, which presents a resistance to motion in the shape of a weight or other obstacle.

Three kinds of levers are enumerated by mechanicians, the definition of each kind depending upon the relative positions of the point of support, or fulcrum; of the point which bears the resistance, weight, or other obstacle to be overcome by the force; and of the point to which the force or power employed to overcome the obstacle is applied.

If the fulcrum be placed between the power and the weight, so that, when the power sets the lever in motion, the weight and the power describe arcs, the concavities of which are turned toward one another, the lever is said to be of the first order.

If the fulcrum be at one end, and the weight be between it and the power, so that weight and power describe concentric ares, the weight moving through the less space when the lever moves, the lever is said to be of the second order:

And if, the fulcrum being still at one end, the power be between the weight and it, so that, as in the former case, the power and weight describe concentric ares, but the power moves through the less space, the lever is of the third order:

In the human body, the following parts present examples of levers of the first order.

The skull in its movements upon the atlas, as fulcrum.

The pelvis in its movements upon the heads of the thigh-bones, as fulcrum. The foot, when it is raised, and the toe tapped on the ground, the ankle-joint being fulcrum.

The positions of the weight and of power are not given in either of these cases, because they are reversed according to circumstances. Thus, when the face is being depressed, the power is applied in front, and the weight to the back part, of the skull; but when the face is being raised, the power is behind and the weight in front. The like is true of the pelvis, according as the body is bent forward or backward upon the legs. Finally, when the toes, in the action of tapping, strike the ground, the power is at the heel, and the resistance in the front of the foot. But, when the toes are raised to repeat the act, the power is in front, and the weight or resistance is at the heel, being, in fact, the inertia and elasticity of the muscles and other parts of the back of the leg.

But, in all these cases, the lever remains one of the first class, because the fulcrum or fixed point on which the lever turns, remains between the power and the weight, or resistance.

The following are three examples of levers of the second order:

The thigh-bone of the leg which is bent up toward the body and not used, in the action of hopping.

For, in this case, the fulcrum is at the hipjoint. The power (which may be assumed to be furnished by the rectus muscle* of the front of the thigh) acts upon the knee-cap; and the position of the weight is represented by that of the center of gravity of the thigh and leg, which will lie somewhere between the end of the knee and the hip.

A rib when depressed by the rectus muscle of the abdomen, in expiration.

Here the fulcrum lies where the rib is articulated with the spine; the power is at the sternum—virtually the opposite end of the rib; and the resistance to be overcome lies between the two.

The raising of the body upon the toes, in standing on tiptoe, and in the first stage of making a step forward.

Here the fulcrum is the ground on which the toes rest; the power is applied by the muscles of the calf to the heel; the resistance is so much of the weight of the body as is borne by the ankle-joint of the foot, which of course lies between the heel and the toes.

Three examples of levers of the third order are:

The spine, head, and pelvis, considered as a rigid bar, which has to be kept erect upon the hip-joints.

Here the fulcrum lies in the hip-joints; the weight is at the center of gravity of the head and trunk, high above the fulcrum; the power is supplied by the extensor or flexor, muscles of the thigh, and acts upon points comparatively close to the fulcrum.

Flexion of the forearm upon the arm by the biceps muscle, when a weight is held in the hand.

In this case, the weight being in the hand and the fulcrum at the elbow-joint, the power's applied at the point of attachment of the tendon of the biceps, close to the latter.

Extension of the leg on the thigh at the kneejoint.

Here the fulcrum is the knee-joint; the weight is at the center of gravity of the leg and foot; the power is applied through the ligament of the knee-cap, or patella, to the tibia, close to the knee-joint.

In studying the mechanism of the body, it is very important to recollect that one and the same part of the body may represent each of the three kinds of levers, according to circumstances. Thus it has been seen that the foot may, under some circumstances, represent a lever of the first, in others of the second order. But it may become a lever of the third order, as when one dances a weight resting upon the toes, up and down, by moving only the foot. In this case, the fulcrum is at the ankle-joint, the weight is at the toes, and the power is furnished by the extensor muscles at the front of the leg, which are inserted between the fulcrum and the weight.

It is very important that the levers of the body should not slip or work unevenly when their movements are extensive, and to this end they are connected together in such a manner as to form strong and definitely arranged joints or articulations.

DOUBTLESS it is right that we should sometimes deny ourselves lawful indulgences for the sake of others; but, in order that such an action should have any good effect, it must be performed spontaneously. To make it obligatory in any way is to defeat the end sought. Charity is not a subject of legislation.

It is sound policy to suffer all extremities rather than to do a base action.

^{*}This muscle is attached above to the haunch-bone or ileum, and below to the knee-cap. The latter bone is connected by a strong ligament with the tibia.

EDITORIAL DEPARTMENT.



NEW YORK, OCTOBER, 1870.

WATER.

"To the days of the aged it addeth length; To the might of the strong it addeth strength; It freshens the heart, it brightens the sight; 'Tis like quaffing a goblet of morning light.'

THE PUBLISHERS do not hold themselves as indorsing every article which may appear in THE HERALD.

They will allow the largest liberty of expression, believing that by so doing this magasine will prove to be more useful and acceptable to its patrons.

BT Exchanges are all identy to copy from this magazine by giving due credit to The Herald of Health and ournal of Physical Culture.

TOPICS OF THE MONTH.

BY-M. L. HOLBROOK, M. D., EDITOR.

Some Thoughts on Success.-In Mr. Emerson's latest volume he has an essay on " Success." The author thereby pays homage to the most popular and captivating word in the English language. To desire success is as natural as to breathe. In whatever a man sets his hand to, he is anxious for a prosperous issue. Whether it be to plow a field, or to sculp a marble statue, or to vend merchandise, or to build a wagon, or to deliver a speech, or to fly a balloon, or to steer a ship, or to lead an army, or to compete for the laurel-crown of poetrywhatever be the undertaking, all men have the right, and take the right, to glance far down the vista of favoring and disfavoring agencies

and yearn for success at the end. As the object to be obtained enlarges in magnitude, this aspiration for success expands and deepens in its dignity, its vehemence, and pathos. When the question rises above the consideration of the mere incidents of life, and becomes a matter appertaining to life itself, and the thrilling interrogation is put concerning the very crown and upshot of existence, we then encounter a question which is really the most tremendous that can be in store for us.

With reference to certain elements of success especially those of money, office, reputation, and the like—probably no other people have so much anxiety and ambition as this high-spirited. American race. In other countries you will ! find a few as ambitious of property as any in America; but in no other country will you meet so many persons with such ambition. Doubtless . this is partly accounted for by the fire in our Saxon blood. Nature made us to do a special work in the world—to be daring, aggressive, victorious over mighty difficulties. A tame, inert, easily-contented race would never have been equal to such a task as the one assigned to us. But there is another reason for this general diffusion of the love of success. In the older and more crowded lands, success is so hard to be won that it is beyond the reach of the mass, and is simply given up by them as one of the unattainable things. They settle down into a severe or stolid despair of ever rising out of the lowly stations in which they were born. But in this new and pioneer civilization, the prizes of life are nearer to us, and every one may feel it possible to grasp some of them. There is just ... enough hope of success to feed and stimulate: and energise the passion for success.

Then, too, the intense longing for hitting the mark in life, which is originally so natural, accumulates by a sort of spiritual contagion.

Any one may see that the god most worshiped

is Success. The best deftness for any doing is success. It will cover a greater multitude of sins than charity.

"Had I miscarried, I had been a villain; For men judge actions always by events."

In the presence of the successful man, whatever be the atrocity of his deeds, all eyes brighten into admiration. Says the author of "the Seasons,"

"It is success that colors all in life; Success makes fools admir'd, makes villains honest;

All the proud virtue of this vaunting world Fawns on success and power, howe'er acquired."

Now, the logic of such a spectacle is that if success is so good for a bad man, how much better it must be for a good one!

It is certainly very odd that upon a subject · of such universal interest there should be so little agreement as to what are its real constituents. Every live Yankee, to say the least, desires what he calls success; yet few feel quite clear as to what success really is. Every variety of standard is set up. One person standing before a certain marble palace thinks Dives a successful man; another person standing in the same place would vote the crown of real success to poor Lazarus lying at the gate. Here again is a theory of life, according to which Louis Napoleon, while on his imperial throne, with the curses of millions stifled beneath the drums and tramplings of his unconquered legions, was judged to be in truth a failure, though Louis Kossuth, preferring indigence to a traitor's rich reward, and choosing exile rather than yield to the oppression of his fatherland, is adjudged to be in truth a success.

Thus, it appears, there are some who look only at outside facts, who think external possession to be felicity, no matter how obtained. On the other hand, there are some at least who would reverse this method of judgment; who scrutinize beneath appearances; who do not concede victory to the man who is on top, nor defeat to him who is under; who regard the Martyr's

crown as a great deal grander, and a great deal more successful, than the Despot's crown; who would rather be Paul on the block, than Nero on the throne. These are they who do not think him wealthy who is dishonestly rich, nor him impoverished who is honorably poor; and who deem him who trudges along the streets in plain apparel put there rightfully more to be envied than him who lolls in his magnificent chariot, wheeled by conventional robbery and lucrative sin.

Here obviously are standards of success wide asunder as the antipodes. It is necessary to make an election between these terribly discrepant standards. The desire of success is blest or baneful just according to the meaning we attach to the word. Let us sacredly resolve that the kind of success which we shall enthrone as the monarch of our aspirations be a true successnot its mockery, its counterfeit, and its contra-Desire a righteous success, and, by the very formation of that desire, our success is achieved-for, in reality, the preference of failure to baseness is the most successful thing in the universe. Desire a wicked success-a base, shallow, and superficial one-and though we get exactly what we aspire to, we fail utterly and deplorably.

We are more than ever convinced that only true success is sanitary and wholesome, and that a false success grows from and leads to morbid conditions of mind and body. In preaching health, we are preaching success; and in helping towards the one we contribute to the other. That "higher type of manhood—physical, mental, and moral," which is our watchword, involves for all who get it a higher type of success.

And we caution our readers, especially those of them who are young, not to be too anxious about the outward symbols of success. True success attaches to the person, and not to his envelopment. We can not make fortune; we can character. As Addison has nobly expressed it—

"'T is not in mortals to command success; But we'll do more, Sempronius, we'll deserve it. KINDERGARTENS.—The following letter from our correspondent, Madame Matilda H. Kriege, Principal of the Institution for Training Kindergarten Teachers, will be found interesting. Her article referred to in her letter, will be published in a future number of THE HERALD OF HEALTH:

"Your communication that some of your readers would like to know more about Kindergartens and in how far they differed from public schools, has stirred up one of our normal echolars, to whom often similar inquiries have been addressed, and as she has put her thoughts on paper, I think I can not do your readers a greater service than to send you her statement, which leaves me little to say. It is really difficult to speak on the subject, because it is truly so comprehensive, and because there are already so many erroneous notions affoat of what a Kindergarten is. Some think it is somewhat like a primary school, with a little singing, marching, and gymnastics interspersed; others that it is what they call a 'play school,' where playthings are given to the children to amuse themselves with as they have a mind to, and where no order and discipline exist. say, 'Oh yes, I know; Kindergarten is object teaching.' A Kindergarten is neither of these things. Kindergarten is the first step in education, out of the immediate and exclusive influence of home, and the training the parents should give to the child-so Froebel intendsfrom its first awakening to life. The Kindergarten takes in children from their third year and retains them till they are seven. Some object to sending children so very young to school, and say it would be too soon for 'school,' but Kindergarten culture does not in the least conflict nor is it at variance with home influence; it is rather an extended home, an enlarged family, where the child is among its equals in age, and where the best means are employed not only for its mental, but for its moral, spiritual, and physical development, such as the best home is often not able to offer; besides, the child visits the Kindergarten only half a day, and the rest is passed in the home which there has new

attractions by the temporary absence. It is a great mistake of parents to leave children at the most important age, from three to seven, when they need the most watchful care and nurture, entirely to chance development, sometimes mostly to the care of servants. The most parents do for their children at that age, is to 'keep them out of mischief' by cramping, but not by directing their activities and energies, or by having them taught reading early, which is decidedly hurtful. And there is really nothing gained by making children learn to read so young, because when their mind is a little more mature and has been properly developed by means better adapted for it, they will learn to read in half the time now needed to teach them, and with half the trouble both to children and teacher. The case may be different if children are left to run wild, till they are seven or eight, without any kind of training or culture.

Some parents, who have leisure and the inclination, stimulate children's brains too much by telling and reading them stories, giving them innumerable picture books-and how few picture books are really fit for children -or giving them heaps of playthings that they soon get tired of, because they leave the child nothing to do. Whoever has watched children at that age, must have observed how great their desire is to do something, not to learn abstract things; how constant their appeal to their mother, 'What shall I do, can you not give something to do;' and how often the mother is at loss how to occupy them, for children do not want to work mechanically, they want to use all their activities, mental as well as physical. For all this craving, Kindergarten offers the means. But I will break off here and go on to say that, in the next class above the Kindergarten, the children certainly ought to learn to read and write (arithmetic is begun in the Kindergarten, but not in an abstract way) as well as other sciences, part of which, however, they ought to study from nature instead of from books, and Froebel provides and gives suggestions for those latter stages of development also, and he wants industrial, agricultural

and artistic departments connected institutions of learning. But this leads me farther than Kindergartens, to which I wanted to confine myself, and I will now leave to our venerable scholar to say what she thinks about them. The comparison with public schools the reader can make for himself, but let me here state, that the Kindergarten does not necessarily conflict with the public school, but ought to be the first grade of the primary department, which would tend to lessen the number now crowding this department, if it were thus subdivided."

THE Two WIVES .- We believe for the first time in literature the author of " The Two Wives" has availed herself of that debatable ground, uncommon, but by no means impossible, which lies between the actual common life and that mystical, metaphysic one, which belongs to a state of being pronounced abnormal only because it is not the ordinary ex erience; and yet we believe experiences somewhat akin are far less infrequent than is generally supposed. The author of The Two Wives assures us that the dream-life of the Professor was suggested to her by the relation of a learned and distinguished Judge on the bench (not Judge Edwards, with whom she has no personal acquaintance), who for several years was subject to a similar state. He assured her that though his apparent unconsciousness was so brief as to be sometimes hardly noticeable, he passed through a long and pleasant experience, with the introduction of persons and events of which he had no knowledge except in this dream-life, if it may be so called. Returning to the normal state, he was the clear-headed, cool, discriminating Judge, with no apparent romance in his composition; no out of the way kink, hobby, or metaphysic speculation to turn him aside from dry, legal matter of fact. He passed into the state which is called somnambulistic, and invariably the scenes and persons which had before appeared to him in this state, returned to him clearly, vividly, and acted and talked in character; each returning state beginning where the former had left off, thus producing a perfect whole.

Poisonen.—Toxicology (the science of poisons, their effects, remedies, etc.,) names many substances which, "when introduced into the animal organism, produce morbid, noxious, or deadly effects." Certain kinds act upon specific parts of the organism; e. g., Strychnine effects the spinal column; oil of tobacco paralyzes the heart; arsenic inflames the mucous membrane of the alimentary canal; mercury lays hold of the salivary glands; elcohol makes its malicious assault chiefly upon the brain. Other brain poisons they are, like prassic acid, chloroform, etc., but all, however deleterious or death-dealing, are infinitely less mischievous in their baneful effects than this most used but most destructive one, alcohol. It not only "tangles the legs," paralyzes the limbs, and deranges the functions of the entire animal economy, but with infernal ambition strikes down the spiritual man. Attacking the citadel of manhood, it carries its ravages through the entire domain of intelligence—aye, more and worse-with a fearfully diabolical alchemy, it loosens or dissolves the very fibers of the soul, debauches the conscience, and throws wide open a free course to every species of vice, crime, and degradation. Reason perverted, God's idol defaced, every power suborned to evil, the creation, the resultant fabrication of alcoholic poisoning with variations almost immeasurable, and a blabbering fool, a raving maniac, a suicide, a babe killer, a wife murderer, an assassin of father, mother, brother, sister, lover, or child-an incarnate devil. Such a poison is alcohol. The highest medical and scientific authority has demonstrated and declared not barely that alcohol is emphatically and definitively "a carebral poison," but that it is more productive of brain diseases, insanity, and indicey, than any other cause.

A few facts, personally witnessed by the writer, will illustrate some of the manifestations of alcoholic poisoning. A wail and a heart-appaling groan on the midnight air reached the ear; rousing and hastening to learn the cause, a poor wretch in human form was found pros-

trate and helpless near the passing railroad cars; a few feet nearer and life would have gone out under craunching wheels. How came he there? Poisoned. An empty whisky bottle near by revealed how. Had he been wounded or poisoned to helpless insanity with strychnine, he would have been carefully taken to some hospital, or tenderly borne to the nearest couch, but as he was whisky poisoned, the police roughly drag him to the lock-up, and the poor wife watches and waits his coming till the weary night has worn away. Who did this nefarious deed? The whisky peddler on the corner, whose business it is to poison and ruin both the body and soul of his victims.

Again. Just now there lays upon an army "stretcher" the form of a lad, not more than fourteen years old, apparently dead. What's the matter? What terrible calamity has come to the dear boy? Poisoned. The four boys about his own age, who are acting as "pall bearers," come only less poisoned than the occupant of the "stretcher," stumbling and falling as they attempted to carry their companion to his home. A whisky keg in a neighboring den had done the work, and a whisky keg or bottle in thousands of other dens in the city is doing similar work to scores and thousands of other lads, "somebody's sons."

At nightfall, while passing along C—— Street in front of one of the "breathing holes of hell," a woman lay in unconscious stupor almost upon the very doorsill on which she had just stumbled. A poor, bloated, bedraggled, horrid thing, welting in her own nasty vomit and filth. How intensely loathsome! A few years back, and she sipped in elegance her first glass of sparkling wine. Now what? Simply poisoned. "Forty-rod whisky" had taken the place of ruby wine.

Since we have "free liquor" on all days and at all times, how could it be otherwise. The ten hideous groggeries kept in full blast by ten of the honorable city fathers—Mitchell, Galvin, & Co., only evince what depths have been reached by this liquor-deluged city. Multitudes of unnumbered facts more heart-

rending and full of horrors, are constantly thrust upon the attention day by day. Is there no remedy; no help? Can not moral reformers put a stop to all this?

Do Insecrs Suffer?—The Nation, in reviewing The Population of an Old Pear Tree, a book recently published, says: "As an entomologist, doubtless the writer knew there was abundant evidence that insects suffer little, if any pain, from injury and mutilation; indeed, it may be doubted whether any other organs than the antenna can suffer at all." This is no doubt true in a degree, though we do not believe that insects and the lower forms of animal life are devoid of suffering. We have on more than one occasion tried to test the matter by experiment, and with some degree of success. Worms seem to suffer much more than moths, butterflies, and small-winged insects. Once we had an army-worm, on which was fastened a parasite so small that it could hardly be distinguished by the naked eye, but under the low power of a magnifying glass, the little fellow was seen eating its way into the large worm, which seemed in great agony. It would throw its head up, twist its body round, and wrinkle the skin about the mouth and face in a manner that indicated distress. It would even try to jump, like a snake, and bite at any thing that was put in its way. We believe, from its actions, that it was suffering physical distress. Soon it sickened and died. Some worms can be tormented so as to show passion and real anger. Why should they not? They have a nervous system distributed throughout the body, the office of which is to feel. If it does not feel so keenly as man, probably it does in a degree proportionate to the perfection of its nervous system.

DIFFERENCE OF WANTS.—In England Mr. Peabody gave of his wealth to furnish fresh air, bread, and cheap homes to the poor. In America he gave to feed the hungry mind. Most of his donations in this country were for the cause of education.

THE HEALTH HABITS OF YOUNG MEN.— Regarded simply as a piece of machinery, the human body is the most interesting study that can attract the attention of a human being. According to the latest developments of scientific analyses, the average healthy man generates force sufficient every twenty-four hours to lift 4,000 tons of matter through a distance of one foot, providing the work is done with no waste of strength; or, to vary the statement, to lift one ton 4,000 feet; or, what is nearly the same thing, to carry 150 barrels of flour, weighing 200 pounds, from the bottom of Bunker Hill Monument to the top. On inquiring of the physiologist what becomes of all this power, he figures out for us the following rude statement:

Spent in generating heat with which to keep the body warm, power sufficient to raise 3,475 tons of matter one foot high.

Spent in digesting our food, circulating the blood through the body from the heart, in its course back to the heart again, and in the movements of the lungs in respiration, power sufficient to raise 350 tons one foot high.

Left for profitable employment, in the form of brain and body labor, power sufficient to raise only 175 tons one foot high.

Total-4,000 tons one foot high.

From the foregoing statement, which of course is only an approximation to the truth, and would vary materially in different persons, the available working power of an adult healthy man is only one twenty-fourth part of the force generated by the food he eats, or, as before stated, sufficient to raise 175 tons of dead matter one foot in hight.

But we prefer not to spend our strength in this way, and so a certain per cent. of it goes in muscular labor, some in business, a portion in thinking, loving, hating, in invention, philanthropic action, etc.; and, no doubt, in a majority of human Beings, a large portion of their available power is wasted in dissipation, riotous living, gambling; or perhaps in uneasy, fretful fault-finding, because their lot is not one that pleases them, or because they are obliged to labor for the bread they eat and the clothes they wear.

A very curious and interesting table might be made by a thoughtful physiologist and hygienist, showing each person where his strength goes; and I am not sure that a young man could do a better service for himself than to seek the counsel of some wise physiologist, tell him frankly all his habits, and have such a table prepared, not only to guard him against excess, but to show him his weak places, and point out where he will be most likely to fail. Some of these tables would, no doubt, read very much as follows:

Spent in digesting a big dinner, which the body did not need, sufficient force to raise 30 tons of matter one foot.

Spent in getting rid of several drinks of wine and brandy, force sufficient to raise 20 tons one foot high.

Spent in smoking six eigers, force sufficient to raise 10 tons one foot high.

Spent in keeping awake all night at a spree, force sufficient to raise 20 tons one foot high.

Spent in breathing bad air, force sufficient to raise 15 tons one foot high.

Spent in cheating a neighbor out of \$30 in a business transaction, force sufficient to raise 15 tons one foot high.

Spent in reading worthless books and newspapers, force sufficient to raise 5 tons one feet high.

Spent in hesitation, doubt, and uncertainty, force sufficient to raise 5 tons one foot high.

Total-120 tons one foot high.

Left for practical and useful labor only enough to raise 55 tons one foot high, or to do less than one-third of a day's work.

Sometimes there would be a draft on the original capital of considerable force, so there would not be enough to keep the body warm, or the food well digested, or the muscles plump and full, or the hearing acute, or the eyes keen and bright, or the brain thoughtful and active.

Very often a single debauch would use up the entire available power of the whole system for a whole week or month. There is no end to the multitudinous ways in which we not only spend our working capital, but draw on the original stock, that ought never to be touched, and the result is imperfect lives, rickety bodies, no ability to transmit to our children good health and long life, much physical suffering and premature decay, with all the ends of life unaccomplished. How sad is all this! How terrible to be born into this world and leave it without adding something to its wealth, its virtue, and its progress.

Now, the practical bearing of this scientific disclosure is this: How can we make the most of the small amount of available force left for use; how so care for the body that none shall be lost in repairing injuries from accident and sickness; how care for the brain, so that it shall always be able to do its share of the work? For nothing is more evident than this, that the body and brain are the organs through which all we accomplish in life is performed, and that to make the most of them they must be as carefully cared for as if they were pieces of delicate machinery, which indeed, for all practical purposes they are.

And this brings us to the discussion of the subject at the head of this paper, "The Health Habits of Young Men."

The secrets of good health are few and simple. They are:

- 1. A good constitution.
- 2. Good physical habits.
- 8. Good mental habits.
- 4. Good moral habits.

With the first we have very little to do. Our parents are responsible here. If they had sound health, and did not overtax their available force in dissipation; if they gave us plenty of wholesome food, fresh air, exercise, and industrious habits, and taught us early to avoid gluttony and licentiousness, late hours, drinking, and poisonous medicines, we are undoubtedly all right; but if our original constitutions were bad ones, let us not bury them in the ground, as the man spoken of by Jesus did his one talent, but rather care for them more rigorously. Many a man with a poor body, but a

good head and good habits, has eclipsed his more fortunately constituted, but dissipated neighbor. While the race might be, it is not always given to the strong. While we are not. however, responsible for the vigor of our inherited constitutions, we are mainly so for those of our children, and I can not help inculcating the truth here, though I go out of the way to do it. Every young man ought to make the subject of inheritance a study, so as to avoid injudicious matrimonial selections, and to understand the right care of children after they are born, so that they may grow up in health and strength. Most young men, and I might say women, too, enter upon the life which results in parentage, with less qualification than for the ordinary business of their professions; and the result is a world of feeble, sickly children, that do not live five years, or which require more care in rearing at all than healthy children do, several times over. The time to master this subject is in early life, before the evils which it would prevent have become fixed and incurable.

After a good constitution, as a requsite to health, come good physical habits. These require:

- 1. A good supply of nutritious food.
- 2. Daily and regular exercise in the open air.
- 3. Pure water to drink.
- 4. Pure and abundant air for our lungs.
- Eight hours of good sleep out of every twenty-four.
 - 6. Cleanliness.
- Regularity in all our habits and employments.
- 8. Wise but not excessive recreation.
- 9. Last, but not least, useful, congenial occupation.

A whole chapter might be written on each of these subjects, but in this enlightened age their mention ought to be sufficient. Probably there is more ignorance on the subject of wholesome food and exercise than on the other questions, and perhaps I may refer to them at some future time.

What I have said implies that if we must have what is good, we should avoid what is bad, and while I will not mention all, I will refer to two habits which every year wrecks multitudes of young men on more fearful strands than death at the cannon's mouth. I refer to,

- 1. The habit of using alcoholic stimulants and tobacco; and
 - 2. To licentiousness.

The first of these vices we all know is terrible, but the second is more fearful still. Sensuality to day outnumbers almost all other vices in the swarms of its victims, and that too among every grade of social elevation, including many of our best minds. If I could impress on every young man who reads these lines the importance of perfect purity in this respect, I should be glad. If our passions rule us they will ruin us, as they have millions of others. How much better to be pure in thought and act than to be impure.

"Only a sweet and virtuous soul, Like seasoned timber, never gives."

A word or two on good mental and moral habits, as affecting health. The brain is the organ of the mind, but besides this, when perfeetly vigorous and wisely occupied, it infuses a healthy, happy state throughout the body; but when our intellects are clouded, and we are sour, morose, cross, and ugly, or mournfully depressed and dissatisfied, the secretions are poisoned, digestion becomes impaired, and our bodily vigor greatly lessened. Other things being equal, those whose mental and moral state is most perfect are most healthful. If one does his whole duty and meets average success, the satisfaction which results from such a course gives a peaceful, happy state to the mind that is exceedingly invigorating to the body, while one whose conscience is always troubling him because he has done a wrong act in business, or in his intercourse with his fellows, and who does not heed the warning of this inward monitor, can never have sound sleep and perfect health.

CHINESE MEDICINES, STUPID EDITORS.— The Tribune, of a recent date, has the following: "A lot of Chinese medicines, seized at the San Francisco Custom House, were received at the Treasury Department to-day. Various kinds of snakes, among them the cobra de capello, bugs, roaches, skin of the porcupine, fetus of an antelope, etc., are among the collection. These things are used as medicines by the Chinese doctors. They are all poisonous, and hence their seizure."

Whoever wrote the above must have been asleep, or else stupid indeed. How does the writer, for instance, make out the poisonous qualities of the dried skin of a porcupine, or fetus of an antelope, or dried bugs, etc. They may be very worthless remedies, but no more worthless and not one-half so poisonous, if poisonous at all, as most of the drugs imported every day for the use of American doctors. We do not wonder, however, at the constant errors which are found in our daily papers, when we reflect that nearly or quite one-half of the work for the press is done by persons who are ignorant, beyond degree, of what they write. To illustrate, The Daily Sun, of a late issue, speaks of how the life of a child was saved by the use of a laryngoscope. The instrument allowed the surgeon to look into the child's throat and see a toy spoon there which it had swallowed. Discovering the difficulty, he was enabled to remove it speedily, which might not have been the case without the laryngoscope. So far the story reads well, but the writer then says that this particular instrument was the only one in this country. Now the truth is, the laryngoscope is on sale in every respectable store for the sale of surgical instruments, and has been used by hundreds of physicians in this country for a long time.

Ship Ventuation.—Pure air is the great need of all on passenger ships. In stormy or rainy weather a large number of persons will be seasick, and the sickness will be much more severe in consequence of bad air.

May ships not be easily ventilated by having a metallic tube of iron or sink to communicate between each birth and the outer air? A valve would enable each occupant of a berth to regulate the current to suit himself. The tubes could run under the floor to some convenient part outside. On large passenger steamers any desired amount of pure fresh air (warmed, if desired), could be at a trifling cost of power forced to every part of the ship.

IMPORTANT ANNOUNCEMENT. — In the next number of THE HEBALD OF HEALTH, or at farthest the succeeding one, we shall commence a series of articles upon the Temperance Movement. The series will embrace ten or twelve papers and continue during a considerable portion of the year 1871. The most important of the following subjects will be discussed: SIGNIFICANCE OF THE TEMPERANCE MOVEMENT.

THE EFFECTS OF THE USE OF INTOXICATING DRINKS ON THE BODY, THE BRAIN, AND THE BLOOD.

ITS REFECTS ON OFFSPRING.

ITS EFFECTS ON RELIGION.

ITS EFFECTS ON LITERATURE.

ITS EFFECTS ON NATIONAL INTEGRITY (including POLITICS).

MODERATE DRINKING.

THE WINE QUESTION.

MISTAKES OF TEMPERANCE REFORMERS.

TOTAL ABSTINENCE.

ALCOHOLIC MEDICATION.

BELATION OF THE USE OF INTOXICATING DRINKS TO POVERTY AND CRIME.

RESTRICTING THE SALE OF ALCOHOLIC BEV-ERAGES.

MINISTERS AND THE TEMPERANCE REFORM.
PHYSICIANS AND THE TEMPERANCE REFORM.
MORAL RESPONSIBILITY OF LIQUOR DEALERS.
HOW BEST TO PROMOTE THE CAUSE OF TEMPERANCE.

The list of writers whom we expect to engage on this series is not yet complete, but we can assure our readers that it will be from among our best thinkers, writers, and earnest reformers. The first paper, on the "Significance of the Temperance Movement," will be by O. B. Frothingham, whose pen has often graced our pages.

The object of these papers is to do some honest, earnest work in a cause dear to so many hearts. Our friends will, we hope, help to

spread the Heralds containing these articles. Those who will secure for us new subscribers for 1871 at \$2, may promise the October, November, and December numbers free. By this means they will secure the entire series, which otherwise they would not.

A NEW THING UNDER THE SUN-A Liquor Dealer's and a Liquor Drinker's Ad-VOCATE. -The Gazette, Vol. 1, No. 1, is dated New York, July 1, 1870. All other sorts of trades have their "organs," why not the whisky trade? "All kinds of vices, sins, and crimes have their devotees and defenders, why not drunkards, and all the forms of iniquity which are the outgrowth of whisky and lager drinking ?" So queries The Gazette, as it enters upon its novel mission of publicly commending through the press the business of drunkardmaking. In New York, under the new order of things, it is no marvel that such a periodical should be launched, and it is already an assured success. Nor would it be strange or incredible to hear some morning hawked through the streets "The Thiefs' Vindicator," "The Burglars' Advocate," or "The Murderers' Defender." Although scarcely such supernumeraries can be needed, since The Gazette is so blatantly in the interest of all these classes, we shall see now what shifts can be made and what fallacies uttered in favor of crime-making.

Schools for Injors.—There are eight institutions in the United States for the training of idiots. The largest of these is at Syracuse, N. Y., and has 150 pupils.

It is a noble work to train and enlarge the faculties of that most unfortunate class who are born into the world without understanding, whose moral and intellectual faculties are more or less obliterated; but far better would it be if parents would so marry and conduct their lives, that idiocy would not be possible. A majority of idiotic children have parents in ill health, addicted to intemperance, or other habits of a degrading and permicious character. Idiocy is sorry pay for a life of dissipation.

How to Treat the Sick.

TREATMENT OF MINISTERS' SORE THROAT. -Though the writer-as narrated in a former article-escaped consumption by strengthening of his lungs by a judicious series of lung exercises, and never had the genuine ministers' sore throat, he still had some decided experience and many opportunities for observations. He very early noticed a fact which, for a time, greatly troubled him. This fact was that the so-called long prayer, from ten to fifteen minutes, was far more trying than all the other services. His throat was very tired, and felt as though it was bruised. He could not understand why praying was so much more fatiguing than preaching, or than reading the Scriptures and hymns, or than talking. Noticing that praying in his closet and in his family on his knees, he had no trouble with his throat, and that the organs of speech worked freely and without pain, he was forced to the conclusion that the difficulty was not to be set down to the account of prayer. This led him to observe the altered position of the head in these different attitudes of prayer. When on his knees his head was in its natural position, and all the organs of speech worked freely. When standing in the pulpit his head was thrown back so that his face turned considerably up. This position threw all the organs of speech out of their natural position, and caused every word spoken to be uttered under constraint. Let any one try the experiment and speak for five minutes with his head thrown back, and he will find how exhausting it is. Having made this discovery, he was careful to change the position of his head, and instantly found that the prayer was no more fatiguing than the preaching. This hint he gave to many of his brethren, who also found relief. He rode one day, at a funeral, with one of the most distinguished medical men of the city, who said, "Why is it that ministers have this terrible sore throat? It greatly per-

plexes the faculty, as the medicines which cure the sore throats of lawyers, of doctors, merchants, and others have no efficacy with ministers. The cause can not be in the amount of speaking, or in the badly ventilated rooms in which they speak, as lawyers have to speak for hours in the vitiated air of the court rooms. There is a mystery about the ministers' sore throat." He told the M. D. that the true cause was in the position of the head during the prayer, and narrated to him his own experience. The M. D. threw his head back and commenced speaking, but soon desisted, saying: "You have solved the mystery. I can now cure my clerical patients." The same statement was made to other medical men, and always with the expressed belief that the unnatural position of the head, throwing the organs of speech into a constrained position, had very much to do with the causing of ministers' sore throat. The same trouble is also produced by those who read their sermons. With the head bent forward and down so as to follow their manuscript, the organs of speech are confined and act under constraint, and the same weariness and soreness is produced. The position of the head in delivering a sermon should be natural. Here the lawyers have the advantage, as they never read their addresses either to the court or the jury.

The influence of diet should not be omitted. He found that when he indulged in fat gravies, melted butter, and greasy substances, he always had an acid stomach, which caused violent heartburn and soreness of the throat. With such a state of the stomach, irritating and inflaming the mucous membrane of the throat, and the organs of speech thrown into an unnatural and constrained position, it can be easily understood why the minister's throat, if not iron clad, should complain. And when the complaining is not heeded, but the same practice continued, it is not to be wondered at that the organs of

speech refuse any longer, under such treatment, to act, and demand rest and silence.

Care in the position of the head in speaking and praying so that all the vocal powers may act freely, and care in diet so as to prevent an acrid poison inflaming the mucous membrane, will save ministers from the distinctive sore throat, and in most cases where it has commenced its undermining work will prove an effectual cure.

There came into my house a brother minister, dearly beloved for his own sake, and for the sake of the good which he had done; but oh, how disconsolate and woe-begone was his visage! He spoke in the lowest whisper. When asked what ailed him, he replied that his throat precluded all hope of again being able to preach. He had just resigned his pastorate in an Eastern city. He was very feeble, and soon sought repose upon the sofa. Words of cheer and hope were spoken. He was encouraged to try what rest and care in the use of his organs of speech would do. The family doctor was sent for, who also spoke hopefully. The result was that he soon began to mend, his voice gradually returned, he became President of an important College, then Pastor of a prominent Eastern church, and for a quarter of a century preached constantly, with no return of the He was eminently useful, and has recently gone to his heavenly home in a ripe age. The ministers' sore throat is not incurable-does not require a visit to Europe. -Dr. Patten in Advance.

THE MIND CURE.—In the volume of THE HERALD OF HEALTH for 1866 we discussed briefly the value of musical and mathematical studies as a part of a system of mental hygiene valuable for a certain class of patients, and predicted that as Hygienic medication become more perfected chronic invalids would be educated into health by a wise system of mental and physical training adapted to their cases, rather than as now treated by drug poisons which are more likely to do harm than good. At the time one or two papers commented on the state-

ment as novel, and one or two persons who had had observation in the same line of thought, wrote us that they believed the idea one which was full of value.

Our attention is now again called to the same subject by the publication of Rev. J. F. Clarke's interesting book entitled, "Steps in Belief." In his argument to prove the existence of a soul against the doctrine that mind is only a form of force and the result of brain action alone, he makes the following prophetic statement: "One of these days we shall probably have a mind cure, and then we shall send sick people to establishments where the body will be cured by well arranged and properly administered mental stimulus and mental food. People will be talked into health, sung into health, and the wise physician instead of potions and pills will prescribe great thoughts and bautiful ideas." There is more in the same vein, but the quotation will give a just idea of what he thinks on the subject. To some extent the health institutions of the country are working up this idea already, and eventually it will become a great means of health, a hygienic measure full of beauty as well as efficacy.

What it Costs to have the Headache. -Dr. Holmes, in a recent address on "mental action," relates that an ingenious tailor he knew once exclaimed, on seeing a customer leave his store without buying a coat, "If it had not been for this miserable headache, I'd had a coat on that man's back before he got out over my doorstep." This but illustrates the folly of having headaches. They are expensive luxuries, to which only the very rich can indulge. Men and women who do the world's work, who think for it, plan its reforms, promote its progress or add to its resources, should at least know enough of hygiene to be able to avoid headaches. A very careful calculation shows that headaches cost this country millions of dollars every year.

PROGRESS ABBOAD.—A great stride has been made in Great Britain by opening the doors of the Edinburgh University to women.

ANSWERS TO CORRESPONDENTS.

BY A. L. WOOD, M. D.

The Staff of Life.—" In The Scientific American of August 13 there is an article on 'New Bread,' which opens with the question, 'Why is it that we must refrain from eating new bread, as if it were poisoned?' and concludes thus: 'The answer to our inquiry has been found in the simple words, pure flour, little yeast, much kneading.' By 'pure flour' is meant fine white flour (i. e. the bran carefully sifted out), free from all foreign impurities. Now I always supposed that un-FERMENTED bread, made simply of UNBOLTED flour ('pure,' of course) and water, without kneading, in the form of small biscuits (such as the Laight Street 'Gems'), might be caten fresh and warm with impunity, and THAT NONE OTHER COULD BE. Am I right? In my family these 'gems' have been for several years regularly served up fresh and warm, and have been freely eaten by children and adults without ever experiencing any evil effect. I have always maintained that they constitute THE BEST BREAD IN THE WORLD. The Spanish bread, so glowingly described in The Scientific American, is no doubt good of its kind, and 'the city of oranges' is to be congratulated for the quality of 'the staff of life' which is there uniformly supplied. But, though I have never even tasted it, I still feel sure it must be inferior to the 'gems,' whether judged with reference to gustatory or hygienic qualities. This BREAD QUESTION. Mr. Editor, is one of prime importance, and ought to be better ventilated. I have sometimes been tempted to compare the evils resulting to the world from the use of FINE PLOUB with those resulting from the use of RUM? This is probably extravagant, but not so much so as might appear at first thought."

This correspondent is quite right in his conclusions. Unleavened bread, or "gems," is the only kind of bread, except aerated, which is but little used, which should ever be eaten warm, and this is perfectly harmless. Fresh, warm leavened or fermented bread is much more difficult of digestion than either the same bread after it has stood for several hours, or

than the unleavened bread. The reason is this. The process of fermentation or "raising," consists of the transformation of a portion of the starch of the flour, through the agency of the yeast, into sugar, and the further change of the sugar into carbonic acid gas, which raises the dough, and alcohol. Now alcohol is a poison, and as such it should never be taken into the human stomach. Moreover, it is absolutely indigestible, and seriously retards the digestion of any thing which contains it or is taken into the stomach with it. More cases of dyspepsia are produced by the eating of fresh raised bread, than any other one article of food. Some claim that the alcohol, generated by the process of fermentation, is carried off and dissipated by the heat of the oven. This is true to some extent, and there have been ovens so constructed in England as to serve the double purpose of ovens and stills, so that while the bread is baking, the alcohol is distilled, condensed, and saved. But it is also true that only a portion of the alcohol generated in the bread passes off while in the oven. The other portion does not entirely pass off until from six to twelve hours after the bread has left the oven. Thus it will be seen that the answer to the question "Why is it that we must refrain from eating new (fermented) bread, as if it were poison?" is, because it is poison, or rather that it contains a poisonous substance-alcohol-which is injurious to the system generally and weakens digestion.

White flour, or that from which the bran has been removed, will not make the true "staff of life." In the first place, it does not contain in sufficient quantity the elements needed to properly nourish and sustain the bones, muscles, and brain, these elements being mostly contained in the bran which is either thrown away or fed to the cattle and hogs. In the second place, fine flour contains by far too large a proportion of starch, which, when eaten freely and constantly, causes obstruction of the liver and constipation of the bowels, and these two conditions, it is well-

known, lead to nearly every other form of dis-People who live largely upon white flour bread are imperfectly nourished, and children brought up upon it can not be otherwise than small, weak, and puny, for the reason that it does not contain the bone and muscle-making elements they require for vigorous growth. If fine white flour could be banished from the land and unbolted wheat meal take its place, the next generation would show a wonderful increase in size and strength of body and vigor of mind over the present one, while, if the present fashion of giving the most nutritious portion of the grain to the hogs continues, the next generation will show a great decrease in size of body and power of muscle and mind.

How to Rest.—The best mode of resting when fatigued, depends upon the cause of the fatigue and the condition of the person at the time. There is one thing, however, which will always rest a tired person, and that is a sponge or towel bath over the entire surface of the body, followed by a thorough rubbing and friction of the surface. Of course the temperature of the water and the vigor and amount of the rubbing must be graduated to the strength of the person. It is generally best if given by a second person.

When the fatigue is mental, arising from over-exertion of the brain, the muscles should be called into action, as by walking, horse-back riding, rowing, playing ball, pitching quoits, gymnastics, etc.

General muscular fatigue is quickly relieved by lying on the face and having some one rub and percuss the back vigorously. Also, but less readily, by lying flat upon the back upon a HARD couch or bed, or upon the floor, with the hands back of or under the head, but the head not otherwise raised, and taking full deep breaths.

Local muscular fatigue may be relieved by rubbing and percussing the part, or by changing position and bringing other parts of the body into action.

Decrease of Drug Medication.—
It is grat fying to note the fact that year by year physicians place less reliance upon the use of poisonous drugs, prescribe less quantities, and rely more upon Hygiene in the treatment of disease. There are, of course, many

exceptions to the rule, but the day of heroic drug medication is fast passing away, and wellit is that the absurd and barbarous practice of giving poisons to cure disease is being supplanted by a better mode of treatment. The people as well as the physicians are growing more enlightened in regard to the deleterious effects of drugs, and are slowly but surely finding out a better way. As a rule, the physicians are ahead of the people. There are hundreds of old school physicians, to say nothing of the reformed schools of practice, who would scarcely give medicine at all, were they not obliged to do so by their patients, who think they must have something to take, and who would lose confidence in their physician were he to tell them they did not need medicine. The following extract from a prominent Allopathic medical journal, is suggestive upon this point: "Do not medicate too much, but rather give as little medicine as your reputations as physicians will allow." Many and many a physician gives nothing but makebelieve medicines, such as colored water, sugar of milk, and bread pills, and these only to those patients who will not be satisfied unless they think they are being drugged.

Feather Beds.—"Why are feathers worse for bedding than cork shavings, or any other substance that is too costly to be renewed often?"

Feathers are very poor conductors of heat, and consequently keep the skin overheated, debilitating it, preventing the full performance of its functions, and rendering the person more liable to colds. Not only this, but the functions of the skin being impaired, the liver, kidneys, and lungs have to do extra duty, and are liable to become diseased in consequence. Another objection to feathers is, that there is a decomposition of their animal matter going on all the time, and they absorb and retain the emanations from the body to such an extent, that they soon become too filthy for even common decency.

Consumption of Tobacco.—The "Anti-Tobacco League" of Paris states that Asia annually produces 155,000 tons of tobacco; Europe, 141,000; America, 124,000; Africa, 12,000; Australia, 400; making in the aggregate, 432,400 tons, or 864, 800,000 pounds, an amount many times sufficient to kill every human being on the ace of the globe.

NOTICES OF NEW PUBLICATIONS.

AMERICAN WOMANHOOD: ITS PECULIARITIES
AND NECESSITIES.—By James E. Jackson, M. D.
Austin, Jackson & Co., Publishers.

In spite of the assumptions and unpardonable style of the author of this work, it is one deserving of attention; though we must say how any one capable of thinking as well, should be so incapable of putting his thoughts into readable English, is past our comprehension.

Mr. Jackson belongs to the advance thinkers of the day, and though he gives nothing new, he has condensed his reasons for thinking as he does into a book which will be acceptable to a large class of readers. We believe his sweeping critique upon American women, that they are an entirely distinct class, bearing analogy to no other representatives of the sex, is an assumption which facts will by no means sustain. The foremost women of reform in this era of 1870, are by no means the finest specimens of the sex either as considered esthetically, intellectually, or physically, and we apprehend the author has formed his estimate mostly from these. Hardy, dogmatic, and persistent, these women are useful in clearing the way for the most perfect woman, and are entitled to all the honor awarded them.

The intelligent woman of France or England has had far less to contend with in assuming her rightful rank in the world, than the woman of the same degree of intelligence in this country, from the fact that her religious or social position gave her certain privileges and immunities denied the sex in this country, where democratic ideas were supposed to be altogether masculine in their import. Hence in France women have mingled freely in politics for the last seventy years or more, and in England the women of the aristocracy lead off with the workingwomen in demanding political rights. The subject is comparatively new here, and women have to fight a harder battle here against prejudice and masculine assumption. This struggle for liberty, this progress of civilization has had its effect in the above-named countries just as it is observed here.

The civilised everywhere is less productive in children than the ignorant and oppressed. Whatever throws the race backward in hope, aspiration or comfort, has the effect to throw it upon the lower passions and instincts, and the more slavish a woman is, the greater number of children will she produce.

This point again seems to be touched in the very highest developments—as in the Buonaparte family, and that of the Wesleys, and Elizabeth Fry; we believe that the latter was twelve times a mother, and the mother of John Wesley, nineteen times. It is to be hoped that these were truly marriages, what Swedenbourg calls conjugial partners, and that as higher elements develop themselves in our humanity, nobler and more harmonious families will result.

In this era it is no praise to say that Dr. Jackson is an outspoken man, with liberal and generous ideas of womanhood, but either men and women are to abstain from marriage altogether, or take each other for "better or worse" for many generations yet to come; and outdea is, that the better method is to cultivate all that is true and noble in sentiment, and aim at perfect mental and moral health, leaving the relations of the sexes to be

developed in this finer atmosphere, with no attempt to permanently adjust them while society is in such a transition state.

A POCKET DICTIONARY OF THE ENGLISH LAN-CUAGE: Abridged from the American Dictionary of Noah Webster, LL. D.—By William G. Webster and William' A. Wheeler. New York: Ivison, Blakeman, Taylor & Co. 278 pp. Price \$1.

This is a very neat, convenient, and durably bound little volume, and is admirably adapted to the purpose indicated in the title. It contains the definitions, etc. of over 18,000 of the most important words of the language, 200 illustrative engravings, and various useful tables which add much to its convenience and usefulness.

EVERY-DAY SUBJECTS IN SUNDAY SERMONS.— By Robert Laird Collier. Boston: American Unitarian Association. Chicago: Western News Co.

It is a notable feature of our day, that the character of Sunday sermons in nearly all our churches, of whatever sect, have so changed their aspect, that they may more aptly be called lectures than sermons. There is an increased disposition to make these discourses practically useful rather than abstractly doctrinal. Our ancestors delighted in these subtilities, and of consequence were strong, intolerant, earnest, and persecuting. We trust that we have not greatly departed from the spirit of Christ, who believe that not speculative belief, but temperance in all things; patience in suffering; love that believeth all things and hopeth all things; and doing to others as we would they should do unto us, is the sum and substance of our creed.

How strenuously these old thinkers used to bend themselves to arguments in proof of doctrines which they verily believed were essential to the salvation of their hearers, we well know, and we honor them for it. How coolly and patiently their hearers listened, would seem a marvel to our flighty churchgoers. One of these divines, carried away by the force of his own logic one warm and breesy Sunday, did not perceive that a puff of wind had abstracted a part of his discourse. Coming at length to minthly, he missed something, and kept repeating minthly, ninthly almost in tones of despair. In this emergency a comely Scotch dame arose in the congregation, and calmly replied,

"If I am nae much mistaken, I saw ninthly going flying out of the window."

Dear heart! what a comfort such a listener must have been to the minister! Things have changed now, and we think for the better. Mr. Collier, the author of the work before us, believes in all human and divine appliances that may elevate, ennoble, and instruct the masser. He sees no reason why the clergy should not go to the theater and opera as well as the laity. And one method of purifying these places is to educate the people, so to induce the refined and cultivated portion of the community to attend them, that managers would be compelled to exclude from their board all that is of a demoralising tendency. The author of these sermons is opposed to all sham and pretence, and looks upon C istianity as a rule for conduct rather than for brain los upon the second that the sermon is opposed to all sham and pretence, and looks upon C istianity as a

from profound and original in a great sense, he is enough so to command respect and insure attention. His style is poetic if not eloquent, and he evidently has warm sympathies for all that is good and best in humanity, as well as a warm appreciation for beauties of Nature and the excellencies of Art. He has traveled and observed much, and brings the stores of a fine experience and extensive reading to bear upon the subject in hand. We are rather surprised, however, to find so capable a writer falling into the vulgar error of using the auxiliary will for shall. He says, "And then" (in the future contingency) "we will all learn and know," etc.

THE PUBLISHERS' DEPARTMENT.

The Address Label.—By this method our subscribers can keep their own accounts as to when their terms of subscription close; for instance, if the printed slip has "De70," or "Je71" added to the name, it signifies that the subscriber's term of subscription expires with the December number of 1870, or the June number of 1871, and so on et seq.

Facts for the Ladies.—Thinking it due your labors in behalf of easing woman's work, I herewith state that in the year 1854, I purchased one of the Wheeler & Wilson Sewing Machines, being at that day most fully informed of their excellence over all others. This machine has been in almost uninterrupted use ever since; (a period of nearly fifteen fears) on many totally different materials, such as my own boots, my boy's clothing, needle-books, besides the usual heavy and light goods worn by ladies and children. It has never been repaired, and does not need it yet. I have often blessed the day on which I first entered your fine establishment as a purchaser.

MRS. J. W. D. PATTEN.

WASHINGTON, D. C.

A Good Sewing Machine is given free for a club of 35 subscribers and \$70. This premium is very popular. If there is a poor, deserving family in your neighborhood help it to get a good sewing machine by subscribing at once. Perhaps your minister's wife wants one. If so, help her to get it, by helping her to get up a club. The Empire is one of the best sewing machines in use, and we are sure that it will give you good satisfaction.

Talks to My Patients.—Mrs. Gleason's book, advertised and noticed elsewhere, is meeting with a good sale. We can supply it to subscribers and agents in any quantity. A good many ladies are solling it with success. We should like to have in every town a good Lady Agent. For particulars of agency, write the Publishers.

Books C. O. D.—Parties who order books will find it cheaper to send the money with the order, than to order C. O. D., as in this case the cost of collection will be added to the bill. This is considerable, when the money has to be returned from a distant point. Those who order C. O. D., should send one-fourth the value of the order in advance to insure prompt attention.

Caution.—Our friends in writing to us will please be very particular and give Postoffice, County and State with every letter, and not depend on us to remember where they live, though they may have told us a hundred times. Those who think we can turn to our books and find their names and address without trouble, are quite mistaken.

Notice to Our Correspondents.—
The following hints to correspondents should be observed in writing to us:

- ALWAYS attach name, Post Office, County, and State to your letter.
- SEND MONEY by Check on New York, or by Postofiles Money Order. If this is impossible, inclose Bills and register Letter.
- CANADA AND NEW YORK CITY SUBSCRIBERS should send 12 cents extra, with which to prepay postage on subscriptions to THE HERALD OF HEALTH.
- REMEMBER, if you are entitled to a Premium, to order it when you send the Club, and inform us how it is to be sent.
- REMEMBER THAT WE NOW GIVE the Empire Sewing Machine as a premium. It is guaranteed to give good satisfaction.
- 6. REMEMBER TO SEND in Clubs early.
- REMEMBER TO LOOK at our Premium List and Book List, and see exactly what we give and have for sale.
- Remember that for the names and addresses of 25
 persons, either invalids or friends of Temperance and
 Health Reform, we give Prof. Wilson's book on the
 Turkish Bath. It contains 72 pages.
- STAMPS should be sent to prepay postage on letters that require an answer.
- 10 Those who want a good Spirometer, Parlor Gymnasium, or Filter for making their water clean, will find the prices in another column.
- Invalids from all parts of the country are invited to write to us for our circular, and full particulars as to Treatment or Board in the Hygienic Institution, See advortisement elsewhere.
- 12. See List of Books elsewhere.

How to Send Money.—In making remittances for subscriptions, always procure a draft on New York, or a Postofics Money Order, if possible. Where neither of these can be procured, send the money, but in a Registered letter. The present registration system has been found by the postal authorities to be virtually an absolute protection against losses by mail. All Postmasters are obliged to register letters whenever requested to do so.

Clubs of Twenty-five.—Any person who will send us at one time twenty-five new subscribers to this monthly, shall have them for Twenty-five Dollars. Remember they mus be new subscribers, and all be sent at one time.

Notices of the Press.—We call special attention to the notices of Mrs. Gleason's book which we have received from persons who have read it, and from the newspaper and magasine press. It is rarely that a work of this character has been so well received.

WHAT THE DOCTORS, THE PEOPLE, AND PRESS SAY

ABOUT MRS. DR. GLEASON'S

TALKS TO MY PATIENTS.

From P. H. HATES, M. D., of Walkins, Mass.

I have just laid down Mrs. Dr. Gleason's new work, and I am impatient to take up my pen in praise of it. The book is true to its title, and full of strong points and good counsels. But its chiefest charm for me is that the writer so well understands the so freq ent connection of a troubled spirit with broken health, and that from the fountain of her own warm Christian heart, and from her experience as physician, wife, and mother, she knows so well how to

"Minister to a mind diseased,
Pluck from the memory a rooted sorrow, and
Clea:se the stuffed bosom of that perllous stuff
Which weighs upon the heart."

From Mrs. Sabah R. A. Dollby, M. D., Rochester, N. Y.

The title, "Talks to My Patients," might indicate to some that the interest of this pleasant and instructive volume was confined to the patients of its author; but which the needs of these may have suggested the "Talks" which come to make the book, no physician will read it without thinking of scores who would be benefited by its perusal; and no mother will read it who will not thereafter be better prepared to lovingly and understandingly guard and care for the physical and moral well-being of her children. I have set it circulating among my patients.

From Mrs. Dr. Winslow, Washington, D. C.

Never was a book more truly named. In reading !t, I see the author before me and hear her voice. It does me good, and it will do every one good for whom it was written. What a happy thought it was for the author to diffuse herself in such a quiet, modest way over the hearts and lives of those she had previously blessed!

From Mrs. Dr. SALES, Elmira, N. F.

I am glad Mrs. Gleason has written "Talks to My Patients." It is a worthy offspring, and will go forth and a blessed work where her voice can never be heard. I would rather have written that book than been queen of the groatest empire on this small globe of ours!

From Rev. JOSEPH SMITH, Grand Rapids, Mich.

It is a book admirable for its brevity and sense. It is the best on such subjects that has ever met my eye. I believe it will do very much good. We are glad to see the author's hand and soul on every page, and to feel that she has written, in Christian love, on a theme which is really sacred, but is made so much a medium of quackery.

From Mrs. STANLEY, of the Female College, Elmira, N.Y.

I believe it to be the book above all others to put into the hands of young mothers and maidens, to help and to guide them in regard to those topics and functions peculiar to woman. I hope and believe the book may find a large sale, tor it is worthy of an extensive circulation, and I shall hope to bear a small part from year to year in recommending it to my friends.

It is a compend of motherly and womanly hints, when should be accessible to all of the female sex, whether maidens or matrons.—Boston Cultivator.

A book that contains much new and valuable information; no nonsense in it.—San Francisco Alta California.

A book we can safely recommend. - Arthur's Magasine.

From ELISABETH OAKES SHITE, the well-known Authors

I would gladly see this work in the hands of every young mother in the land; it would serve to give her confidence in herself and in the divine provisions of Nature. She would be saved from that weak and senseless fear which embitters the life of the young wife and mother, and leads her to adopt courses destructive to her peace of mind and detrimental to her health.

The full, gracious womanhood of the author is apparent throughout, not unmixed with a cheerful humor quite refreshing upon such subjects. She is eviden ly familiar with the pen, and uses it with eas:. She is sufficiently scientific, but not technically so, and her book may be c ted as proof that women never undertake any thing they are unable to accomplish. I am proud to say that such women honor the profession; they are fast driving from its ranks those unprincipled charlatans who cater to the weakness and wickedness of woman, and render marriage a barron and dishoncred relation.

From The Evening Mail, New York City.

We know of no book which, in its way, deserves heartier commen lation. This is said to be the first medical
work issued in America from the pon of a woman; may
all that follow be as good! Modest in its assumptions, it
does not pretend that physicians are unnecessary, but it
teaches what are the causes of many diseases, and how
they and the physicians may be avoided. It so avoids
the two extremes of mock delicacy and pandersome detail
with such good sense, that we could wish it put into the
hands of every American girl and woman.

From The Liberal Christian, New York City.

After reading the whole of this book, we pronounce it the most admirable and excellent that we have ever seen of its class. It is written for women. The style is pleasant and readable, and it is full of wise counsels and suggestions regarding the very things in which so many people most need assistance. It is a safe book for young people to read, for any body, indeed, and this can be said of very few books dovoted to such subjects. There is not a sentence in it that can be perverted, or misused, so as to do any harm. We wish the book could be read in every household in our country.

From Harper's Magazine, New York City.

Mrs. Gleason is able to say something to wives and to mothers which no man could say. There can be no difference of opinion about the value of the practical suggestions ahe affords, which are characterised by sound philosophy and clear, good, sterling common sense. We wish the chapter, "Confidential to Mothers," might be pablished as a tract and sent to every mother in the land.

This book is like the familiar conversation of come wise, experienced friend, who has gathered young girls, young wives, and young mothers to her side, and is tolling them all about the grave mystery of their organisation and how to care for themselves.—Elmira Advertiser.

This book treats in a thorough yet delicate manner of all the troubles, cares, and diseases of women. We do not hesitate to say it is the best book of its class we have yet seen—Gody's Lady's Book.

THE HERALD OF HEALTH

AND

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[New Series.

PUBLISHED MONTHLY BY WOOD & HOLBROOK, 13 & 15 LAIGHT STREET,

A NEW DISCUSSION OF TEMPERANCE PROBLEMS;

COMPRISED IN A SERIES OF TWELVE ESSAYS CONTRIBUTED BY OUR BEST THINKERS AND WRITERS.

No. I.—THE SIGNIFICANCE OF THE TEMPERANCE MOVEMENT.

BY O. B. FROTHINGHAM.

T is proposed to publish in THE HERALD OF HEALTH a series of papers prepared by different hands on the Temperance Movement. They will not aim at covering completely the whole ground of discussion, but will try to throw light on the main points, and present the subject in its most important, practical bearings. The present introductory paper will concern itself with a few general thoughts on the value and significance of the question, as a question of moment to all men.

Alongside of the disposition to magnify small things, which is answerable for so much exaggeration of petty, local, or incidental interests into affairs of national and human concern, there runs a disposition equally strong and equally irrational to underrate the meaning of great things, to reduce matters of vast and grave moment to the dimensions of private notions, prejudices, bigotries, whims, that are beneath the notice of noble minds. The Slavery question suffered from beginning to end through belittling interpretations, which hid its real significance from view. Slavery was called a

local institution, an exceptional and transient condition of society, an incidental phase of history, at the most a social blunder, an economical mistake, a class or county misfortune which. affected but few people, and them not seriously. Its radical opponents, the Abolitionists, who denounced it as a gigantic system of crime, inhumanity, and guilt, were pronounced a set of crazy fools and fanatics, who were making a mammoth of a mouse. These political and social quidnuncs succeeded in concealing the proportions of the evil, but did not succeed in altering its nature; and presently a civil war, which an early estimate of the true character and spirit of the institution would have prevented, convinced the nation that this thing they had been taught to consider a harmless mischief, was a deep-seated poison.

A similar mistake, not less grave in character, though less formidable in its menaced consequences, is made by those who treat intemperance as a superficial and limited mischief, and look on its enemies as a company of earnest but misguided enthusiasts, who are wasting their

force on unreal or grotesquely exaggerated issues. To judge the question rightly, it must be viewed in its largest aspects, and appreciated at its full magnitude. Effort should be made to get beyond incidental considerations raised by class prejudice, personal feeling, private taste, social usage and fashion, and to reach the heart of the matter as it effects the life of the people, the civilization of the age, and the constitution of society in America. How does it stand related to the general interests of the community? What is its value in a republic? What does it signify as a phase of thought, feeling, experience, or effort? These are the great questions. Not how is it entertained in club houses, how is it regarded by diners out, how is it viewed by wine merchants, how does it interest here and there an invalid, here and there a broken or impaired constitution? Individuals and groups of individuals, chemists and medicators, vinegrowers and distillers, may have their views very cogent to themselves; but these views are of small account in the eyes of those who make an estimate of the subject in its full bearing. The Temperance Movement is a movement in modern civilization. The Temperance Question is a question that concerns the age. The Temperance Reform is a reform that touches the essential well-being of the community. Qualifications, modifications, criticisms aside, Intemperance is a radical evil in modern society, and Temperance would be a radical and an inestimable good.

The writers of future papers in this series will point out the specific value of the Temperance movement in the several aspects of it which they present. They will show how it effects the physical health of mankind; the fullness, richness, enjoyment, and duration of life; the fruitfulness of marriage; the felicity and satisfactoriness of homes; the health and sanity of offspring; the laboring and thinking capacity of adult men and women; the productiveness of industry; the achievements in literature and art; social economies; the amount and character of crime; the interests of state and national politics; the moral and spiritual condition of the people; in short, how it affects values of every species and degree. It is only proper here to present a few preliminary considerations that may serve to set the general question in its true light.

1. The Temperance movement is significant of the stage of progress thus far reached in the advance of mankind. The existence of the movement makes an epoch in civilization; for there was a time, not far distant either, when

no such movement was thought of, when the subject of Temperance interested no considerable number of persons, and no ripple of feeling stirred the minds or hearts or consciences of any large class. Hawthorne, in his "English Notes," tells that as he sat in a public smokingroom, an old Newcastle gentleman and his friend came in, drank three glasses of hot whisky toddy apiece, and were still going on to drink more when he left the house. "These respectable people," he remarks, " probably went away drunk that night, yet thought none the worse of themselves or of one another for it." This occurred fifteen years ago. It might occur now; but whether the actors would go away either as self-complacent or as mutually approving may admit of doubt. A great change has taken place in public opinion respecting the drinkingusages of society, and it is due not to a passing spasm of feeling, not to the feverish sentiments of a hot-headed reformer here and there, but to a wide though not as yet profound or clearlywrought conviction that those usages are deeply injurious and essentially wrong. The modern understanding begins to perceive that; the modern conscience is waking up to it. The case is not worked out; the persuasion is not put into perfectly available shape; but the admission that there is a case, the perception however rebulous, the conviction however dim and hesitating that something is to be done about it, mark an era in human development, the birth of a new intellectual and moral sense, the rise of a feeling of disgust at former beastialities, a stirring of desire after more rational enjoyments, a dawning impression of responsibility that heralds a better day. Intemperance is a legacy bequeathed to us by former generations of low, sensual, passionate life, when appetite was over-powering in strength, when organizations were coarse, employments rude, pursuits exhausting and dangerous, and when flery stimulants were used to keep up the exorbitant The Temperane supply of nervous energy. movement proclaims unmistakably that the old time is obsolete, and that a new time is entiripated. It means that men really desire to improve their physical, social, and moral condition, are bent on becoming civil and well-behaved. Certainly such a disposition should to be hailed with joy. The point at which the disposition breaks out into manifestation should be noted, emphasized, and watched with deepest interest. The effort it makes to justify and assert itself should be assisted by all well-wishers of their kind. The Temperance agitation discloses the sensitive point in the general conscience. This

18 where the shoe pinches. This is now the pea beneath the twenty feather beds that makes the princess turn and toss, and deprives her of her rest. To this therefore must attention be resolutely directed. It is useless to say there is no pea there—it is all fancy, it is the princess's notion. The restlessness has a cause, and this is the cause. There will be no rest till this is removed. Regarded simply as an indication of moral awakening, the Temperance agitation possesses therefore the highest significance, and is worthy of the most careful study. To neglect or undervalue a social symptom of such conspicuous importance, would betray insensibility to the moral improvement of the people. Welcomed as a sign of progress, it should be still more heartily welcomed as a condition of it. Other questions have been of more vital, at all events, of more deeply-felt importance in the past; other questions may be of more deeplyfelt importance in the future, but at the present time the social significance of this is most apparent and should be most thoroughly comprehended.

2. But this is not all. The point that indicates the line of progress, is the point round which rally the forces of progress. If the Temperance agitation is valuable as declaring the point of weakness and suffering, it is valuable to even greater degree as marking the point of effort. The Temperance question is one of the test questions of moral reform; the question that is to awaken moral earnestness, enlist moral effort, train the conscience, and discipline the will. In this respect it is to do in a measure what the Slavery agitation did in the last generation, act as a stimulus to the best aspirations of the time. It possesses the material and capacity that a great popular cause demands. It is throbbing with the agonies of tens of thousands whose ruin and wretchedness strike to the heart of all who can sympatize with sorrow, pity, and woe. It is the cause of the poor, and of those that commiserate them; of the criminal and of those that would reform them; of the sinful, and of those that would convert them. It touches nearly the workingmen and their families. It engages the interest of all who have homes, of husbands, wives, fathers, and mothers. It appeals directly and earnestly to those who have at heart the social well-being, or the spiritual felicity of their fellow-creatures. It is a matter for ministers and philantropists to take up. It has already roused enthusiasm, and even excited fanaticism. It is not difficult to create a passionate zeal and inflame emotions of holy wrath by dwelling on the evils that lie all

about in the highways and byways. No living question, no question of business or finance, no trade or labor question, no question of politics or government so strikes home to the bosoms and the souls of men and women as this does, for they are all involved in this. The marvel is, not that it has caused so much commotion, but that it has caused no more. Had its full import been presented, it would have caused a great deal more.

The Temperance agitation possesses another feature that is characteristic of a grand cause. It sharply divides opinion, and is fiercely debatable. About every one of its points there rages furious battle between those whose intereet lies in upholding the drinking-usages of society, and those whose interest lies in their abolition. On the one side are they who live by the ravages of intemperance, and on the other side are they who die by them. On the one side are the indolent, the sensual, the passionate, the slaves of appetite, the pleasureseekers, the merry-makers, the banqueters, the lovers of artificial excitement; on the other side are the sober, the grave, the earnest, the friends of peace and order, the lovers of domestic tranquillity, the patrons of healthful amusements, the devotees of intelligence and virtue, the public-spirited citizens, the warm-hearted patriots, who perceive with perfect clearness that in a republic Temperance is no less indispensable than Freedom. The question furnishes the touchstone of fidelity to the finest principles and to the noblest interests. Whatever differences of opinion may prevail among the combatants on either side; whatever disagreements in regard to means, policies, and organizations, as between the prohibitionists and the restrictionists for example—or as between the advocates of total abstinence from all kinds of alcoholic stimulants, and the tolerators of beer and light wines -the great body of those who stand for the cause of Temperance are the enlightened, cultivated, and conscientious, and the great body of those that stand against that cause are the unenlightened, the uncultured, and the careless. These are always, and always must be, in conflict, though unconsciously so. Whatever makes the conflict decided and open, as the agitation against Slavery did, as the agitation against Intemperance does, as the agitation against other great social immoralities will do by-and-by, answers a high moral purpose in the moral education of the age.

The subject needs to be regarded far more than it is now, in its grand aspects, as something that concerns every body, as the immediate, pressing interest of men, women, and children; as a matter that lies close to all hearts and homes, to all departments of labor and all phases of experience; as a thing affecting institutions, laws, administrations, churches; as a matter vital to property, nay, as a matter literally of life and death, for the crime which endangers property and life increases and diminishes with the ebb and flow in the progress of this cause.

As humanity fights its way along toward better social conditions, it comes from time to time upon special points of resistance which prove to be the keys to wide reaches of territory. The capture of the stronghold gives possession of a fruitful land of peace and plenty. Intemperance is one of these strongholds, the particular one that at present stands in the way of further advance. The immoral and demoralizing use of stimulants must be arrested, must, if possible, be made to cease. That is a distinct issue. There can be no doubt how it will be decided, if it can be fairly appreciated.

The Time Comes when Children Must Think for Themselves.

BY MRS. H. C. BIRDSALL.

A TIME comes when children begin to see with their own eyes, to receive impressions and gain opinions, not entirely unbiased by their parents' influence, but so independent of it that, if right, they can not be induced to change them by any effort their parents may make. Fortunate are they if, learning to judge for themselves, they find they have been taught so well and truly that they have nothing to learn over.

Gradually now they must be emancipated from obedience—an expressed wish should be enough, and as few restrictions should be laid upon them as are consistent with their moral wellbeing. Miss Mulock has written:

"Remember that the time must come in every family, when it is the children's right to begin to think and act for themselves, and their parents' duty to allow them to do it; when it is wisest gradually to slacken authority, to sink 'I command' into 'I wish,' to grant large freedom of opinion, and, above all, in the expression of it."

The first exhibition of this change in children coincides very nearly with the time of their physical change from childhood to youth, and may be at any time from twelve to seventeen years of age. Children's minds now fill rapidly with crude opinions upon all sorts of subjects—the expression of them is not agreeable to older people, who think decidedly and maturely, and they therefore frequently treat their children as if their ideas were so silly as to deserve no attention. Their parents may assist them greatly

in learning to think well by listening attentively to the expression of their thoughts, and aiding in their improvement by kindly sympathy and suggestion.

There are certain natural facts for children of this age to know, which they should not be left to learn by their own inquisitiveness; they should be deliberately told by their parents. It is the father's place to talk to his boys of their approaching manhood, for he can better than any other person instruct and advise them. The mother has an equally important part to perform with her daughters.

The next four years should be devoted to study. There are often important objections to this course, such as delicate health of the children, or the parents' want of means. The former can not be put aside, but it is the parents duty to deny themselves much to give their children a good education.

People, in giving their children the advantages of education, very frequently lack judgment; they think that they must study every branch mentioned in school or college courses of study. They ought to know that there are certain studies which some children ought never to attempt, and which these studies are, they, and no one else, should determine by their intimate acquaintance with the various tastes and capacities of their children. There are children who can not acquire foreign languages, at least from books; possibly, if obliged to live in a foreign country for many years, out of hearing of their own tongue, they might gain a

tolerable knowledge of the one they were in the daily habit of hearing, but for school-teaching to accomplish this in them is hopeless. It is the same with music. Many children are obliged to practice a regular number of hours each day, who have neither the musical ear nor the mechanical faculty to become even endurable performers. Their teachers wear out their patience and their nerves in endeavoring to teach them, knowing all the time with true teachers' insight that these children should never be taught music, but also knowing that the statement of this fact would give great offense to the parents.

Whatever studies our children undertake we should have them learn thoroughly, so much so that, if necessary, they be able to teach them, not only from the particular text-books they may have used, but from any and all the books that may have been written upon the same subject. And, as in their studies, so, in whatever young people attempt, they should be taught thoroughness. The spirit of the saying "Whatever is worth doing is worth doing well," should be inculcated, though I doubt the wisdom of the frequent repetition of this or any other formula of words to children. Such maxims impress the young mind forcibly the first time they are heard, but lose their effect if often repeated. And this suggests a thought which should, more appropriately, have appeared in my remarks upon the training of younger children, viz., that orders should not be reiterated to them. For instance, a young child may be going to execute a commission for you; you are fearful that he will forget it, and, therefore, as long as he is in your sight you continue to repeat the errand. Experience has probably taught many mothers that this habit renders a child heedless rather than careful, and that it is at the same time very irritating to a child's temper. We should see that children are strictly attending to us when we are giving orders, and they should be accustomed to hearing them but

But to return to the matter of thoroughness; there seems to be a growing demand for well-done work, from the most menial service to the highest of literary and artistic work; and this demand has, of late, been specially made of women, who, in desiring to fill places formerly occupied by men alone, are met with the assertion that they can not expect the same pay as men, because they do not do the same work as well:

I have often heard remarks like the following from ladies who have been through a form of education, and pass for intelligent people. "What should I do, if the necessity should arise for me to earn my living? I am not thorough enough in any branch of knowledge to teach; I do not write a sufficiently good hand to become a copyist; I can not sit at a sewing machine steadily; I can not think of any thing I could do except menial labor far beneath my tastes and too much for my strength." These ladies may never be obliged to work for themselves, but the uncertainty should only be considered an additional argument in favor of every young woman, as well as every young man, being taught to do something sufficiently well to afford her a means of support, in case of necessity.

There can not be too much stress laid upon the importance of preparing every child for some fixed station in life. Every boy should be taught a trade or profession, as his tastes incline him, but he should not be forced into any position. It seems to be a fault of farmers, more than other men, to attempt to make their sons walk in their footsteps. Articles are continually appearing in the newspapers upon the growing tendency in farmers' sons to leave the home work for something different; and all kinds of expedients are proposed to prevent this emigration.

The perusal of such articles always suggests the question, "What use? Children must have their individual preferences, and why should farmers' sons, more than those of blacksmiths, carpenters, merchants, doctors, lawyers, etc., be expected to do the work of their fathers?"

It is quite natural that a man, with a real fondness for his own calling, should wish his sons to work with him, and he should employ certain means to induce them to do so. He should make his work agreeable by doing it with a sensible degree of modern improvements; by his genial, pleasant ways with his children while they are helping him; by providing them with an oceasional book relating to his pursuit, and, as they advance in age and find occasion for the use of money, by allowing them a sufficient amount to make them feel contented with their position. He should use very little argument, for, although it may change a child's resolutions, it will not alter his tastes. Many men have missed their vocation from being overpersuaded to follow another's tastes rather than their own.

Parents should give their children a regular and fixed allowance of money, if their means allow it. If wealthy, they should avoid the error of making the allowance lavish. The arrangement of this matter should be well considered by both father and mother. The latter is usually a better judge of the small expenses of children than the father, and together they may strike the balance between too much and too little. If parents are able to give their children but a small amount, or none at all, they should let them know the reason; for, among the mind-workings of the rapidly-maturing children, are sure to be hard thoughts of parents' injustice, when they contrast their own state with that of their young friends, unless they are let into a knowledge of their fathers' pecuniary affairs.

As a general thing, children leave school when too young. Girls are especially apt to think it a disgrace to be kept in school after they are eighteen years of age, and but few of them are kept even that length of time. Boys are much the same, except when they are transferred from school to college. The difference in name seems to go a great way, and it is to be hoped that the female colleges starting up throughout the country will produce a change in this respect for young ladies.

I have said, in a previous article, that young people attending school should see something of good society. This should be in the presence of their parents or other esteemed older friends. The time has not yet arrived for their unlimited intercourse with each other by themselves.

There is no doubt, that much of the want of delicacy in manner between the two sexes, and, worse yet, many life-long regretted mesalliances are brought about by their unreserved intercourse before their tastes are fully formed and before they really know their own minds. If they should study steadily, but not so closely as to overtax them, and see only enough of society to make them easy in their manners until they are at least eighteen years of age, their choice of husbands and wives would be delayed and would probably be very different, than if they had been with their young friends so much as already to have formed attachments.

At this time parents should do what they can to make their children enjoy life. They should occasionally take them upon excursions, and, if possible, they should once a year travel with them. The best time for this, of course, is the long summer vacation which is becoming so universal in schools. Some ambitious child may reserve a corner of her trunk for a well-loved school book. Hunt it out and consign it to some place of safe keeping at home. Every means should be used to prevent children running into a morbid state of feeling, to which

some temperaments are peculiarly liable at this ago, and which interferes very much with the happiness and usefulness of any one.

Home should be made delightful. To this end style is not essential, and, indeed, no amount of wealth should be considered a reason for living in this false state. Children should be accustomed to plenty if we have it, but not to lavishness nor ostentation. Simplicity should be the rule in house arrangements, in equipages, in manners, in every thing. We should have a large, freely-used, generous house, and in it we should have no shut up parlor, but one furnished as well as we can afford for our children to congregate in. By well-furnished I do not mean that it should be stocked with a supply of the stereotyped, slippery, hair-cloth cushioned chairs and sofas, which almost every well-to-do country family think they must have, for I am inclined to think that the art of furnishing would make the chairs and sofas a secondary consideration to the more tasteful adomments of hangings, pictures, brackets, vases, window ornaments, etc. But this art of ornamentation may be carried a great deal too far. Because brackets furnish a room so well, we should not fall into the error of putting them in every empty place upon the walls, neither should walls be hung too profusely with pictures. The so common extreme of filling one's parlor with knick-knackery is specially lowering to the tastes. The almost inevitable "what not" loaded with small articles is not objectionable, if taste has been shown in the selection of the articles placed upon it; but, when heaped up with cheap plaster images, rewards of merit, small china dolls, etc., the more fitting place for it would be the nursery or attic. Unless we have a library, a book-case well stocked with good reading should have a place in this home room, and no books should be considered too nice for our older children to use. A musical instrument of some kind should be there, or, better still, two-a good piano and the best parlor organ that can be procured. If there is really no love of music in the family, of course no musical instrument is needed, but a family wholly destitute of a fondness for music is seldom met. A center-table, large enough to give every child a place at it, is also an essential to full comfort. Upon this table should be found a goodly amount of the current literature of the day, which should be carefully selected, never from advertisement alone, but from critical perusal and examination by the parents. This room should be large and well-lighted, and,

large or small family, as it may be, happily seated around the center-table or at the musical instruments, there should still be enough space left to give one the sense of openness, frankness, hospitality. And this room should be as far away from the kitchen as the size of the house allows. The toil and heat of the kitchen are very well in their place, and our children should be acquainted with it by actual experionce, but it should not be their abiding place. We should make our children's sleeping-rooms pleasant. They should be good-sized and well ventilated, and our children should be encouraged to decorate them tastefully. should take almost the entire care of their rooms, and should be required to keep them in perfect order. Boys, also, should be trained in the orderly arrangement of their rooms.

It is curious to notice the difference that some mothers make in the training of sons and daughters. They insist upon their daughters practicing orderly habits, but the sons, in consideration of their being incipient men, are allowed to leave their clothes where they drop them and their rooms in a general state of disorder.

Parents should teach all the small babits of daily life in the light of their own experience as husband and wife. They probably in their heart of hearts expect the time to come for their children to be married, and, if their own married life has been a happy one, they certainly can not wish otherwise. It is not necessary nor expedient that they should suggest this idea to their children, but they can train them in accordance with it. Every mother knows very well how much of the comfort of home-life depends upon small things. A happy experience of her own will show her better than any thing else just what habits are valuable for the increase of domestic happiness. will therefore train her daughters to treat their brothers in regard to small matters, as she herself treats her husband, to be cheerfully ready to assist them in any way that is right, but never slavishly to do for them things which they ought to do for themselves.

Boys, on the other hand, should be taught the proper amount of deference to their sisters, not the obedience to whims which some young men feel themselves obliged to practice, but that gentlemanly helpfulness which a good heart and true manliness will go far to instill of themselves.

The young man instructed by rules of etiquette to pick up all the articles dropped by young ladies, just for the fun of feeling that they have servants in the young men, and who is the most ready for ever to stoop in this kind of work, may yet become a domestic tyrant; while another, recognizing motives, and holding himself upright before such young women, stands a far better chance of becoming the husband he ought to be.

The father's influence is now particularly valuable to his daughters, for he can teach them, as no one else can, the man's idea of a perfect woman. He can impart, by his instructions, an element of strength, without which a woman's character is incomplete, and can at the same time keep her from going too far. The mother's intercourse with her sons is equally important in rounding off the sharp points of their characters, and smoothing them over with that womanly tenderness which is so winning a trait in a good, strong man's character.

HIDDEN MANHOOD.—I remember Harriet Martineau tells how, when she had grown to be quite a girl, a little one was born into her home; and as she would look and ponder, not knowing what was to become of it, she got a great terror into her heart that the babe would never speak, or walk, or do anything that she could do, because, she said how can it, seeing that it is so entirely helpless now? But she found, when the right time came, that the feet found their footing and the tongue its speech, and every thing came along in its own right time; and then, instead of the babe, she had a noble and beautiful brother, who was able to take her part and teach things to her, who had taught him. So the babe became an illustration, when it came to manhood, of a very common latent fear in the hearts, not of sisters so much as of fathers and mothers, that the life that has come to them, and is their life over again, will not scramble or grow or wrestle into its own place, . as theirs has done. They have no adequate. belief in the hidden manhood or womanhood. that is folded away within the small, frail nature, and that the man will walk among men. and talk with men as a man; and so they. often spend the better part of their time in trying to order afresh what our wise mother Nature. has ordered already .- Robert Collyer.

STAIR CARPETS may be preserved a much longer time by placing strips of paper nearly as wide as the carpet, and five or six inches broad, over the edge of each stair, which prevents the wearing at that place

Lungs, and How to Use Them.

BY REV. CHARLES H. BRIGHAM.

THERE are people in the world that live through a long life in the full exercise of their faculties, who neither know or care to know that they have any lungs, who make no provision for their breathing function, and leave those hidden cells to their own work. They talk and laugh, and cough when they take cold, and pant when they get out of breath, but never trouble themselves to inquire what the lungs are, or how this breath of life comes and goes in its box of sponges. Perhaps for men in health it is the better way to let the lungs alone, not to derange their play by any needless anxiety, not to know any thing about them. All the rules of sound health for the lungs may be learned and kept by those who have mover seen even the diagram of the obscure air-cells, or have studied their physiology. Those who know most about the organ are not by any means those who treat it most wisely in their own habit and regimen.

On the other hand, there are not a few who find out very easily that they have lungs, and are never permitted to lose the sense of that sad fact. They have fatigue in the lungs, pain in the lungs, disease in the lungs, tubercle, abscess, congestion, and how many more varieties of insidious malady. A chronic cough not only reminds them of this part of their physical economy, but makes them conscious that their lungs chiefly represent them in society, in the world, and in the church. While the lungs of the preacher in the house of worship expound the Word of Life, and from the voices of the choir goes forth the song of praise, the cough from the pews seems to answer and deny the words of promise and praise by its hollow knell. In how many boarding-houses is the sleep of the inmates nightly murdered by the obstinate lungs of some phthisical sufferer, whose will is not strong enough to hold back the spasm. · Cats on the roof are bad enough, but these may be scared away; there is no deliverance from a · coughing tenant in the house. And no annoy-. ance is more severe, awakening as it does sympathy and pity along with impatience and vexation. An obstinate cougher in an assembly can set half the assembly to coughing with him. It is as hard to resist the contagion of coughing as · of laughing.

There are those who insist that diseases of the

lungs are a product of modern civilization, that "consumption" is a late affliction of the human race, and that in primitive times this scourge was not known to men. There is probably more of it now then there was in the classic ages. The Bible is silent about coughing and nowhere speaks of "lungs," connecting always the breath of life with the "nostrils," yet we may think that Job's malady, beginning with boils and cutaneous trouble, was soon to end in pulmonary consumption, from what he says about the state of his breath. It is probable that there were tubercles in the lungs of the early Senitic and Aryan races as there are in the lungs of their descendants, and that the men of Rome and Athens and Jerusalem had their equivalents for our cherry pectoral and our cod-liver oil. Possibly some future Egyptologist may read on the rocks by the Nile such advices to "cure your cough," and to use timely bitters, as are read to-day on the rocks of the Hudson and the Upper Mississippi. In the antediluvian time, men may have been free from troubles of the lungs; but it is more than likely that in the long confinement of the Ark in that damp atmosphere—rain all the time one of the sons of Noah took a severe cold which settled on his lungs, and that he has transmitted pulmonary weakness to all his posterity. The sons of Japhet may be bold to try all experiments—audax omnia perpeti—but they know that even skill in base-ball, and rowing, and driving, and manly exercises will not exterminate the pulmonary plague which is fastened in the blood of their race.

Whatever may have been in the ancient time, the lungs now have the first rank in furnishing topics of pathological teaching and practice. The princes in quackery make affections of the lungs their specialty. Eminence in the regular medical faculty is allowed to those who can cure consumption. Skill in auscultation and percussion is the highest accomplishment of the practitioner. To tell exactly where the trouble lies, and how far it has reached, is a rare art; to tell how it may be surely removed, is almost the sign of inspiration. For there is the secret feeling that all assurance of cure to a consumptive patient is only holding out a vain comfort and a delusive hope, and that after disease has really fastened itself in the lungs, it is lodged there like a worm in the root, or like a sharp director in the Erie Railway, to eat out the life of the body beyond all chance of remedy. The sufferer may ease his mind by indulging the hope; but his wiser friends see in him only a doomed victim, who will be saved by a miracle, if saved at all. He may go to the dry air of Minnesota, or to the magnetic wells of Michigan, or to the resincus forests of North Carolina; he may absorb indefinite quantities of chalybeates or expectorants, and may ride on horseback two hours in the day, but all to no purpose if consumption has marked him.

But, if cure of consumption be so difficult and improbable, prevention of it is not impossible, even when the predisposition is strong, and the hereditary taint very marked. There are those who live to old age, with tubercle in the lungs, showing itself in the sallow features and the look of scrofula. A wise use of the lungs may counteract their native disorder. A right use of the other organs may keep this delicate organ in healthy condition. Indeed, the lungs are best reached by remedies that do not touch them directly. They are dependent parts of the system, though their office is so important, and they are guided by the fortune and the state of the other parts. The quack medicines are right in "exhibiting" themselves in the stomach or on the skin, rather than in the cells of the breathing apparatus. Any course which builds up the general health and strength of the body saves the lungs from disease, provided that it does not build up one part at the expense of the Wholesome food, regular exercise, the ordinary remedies, which we discussed in a former series of essays—these save the lungs from the fate that might otherwise involve them.

But there are some habits which directly affect the lungs and their health, which ought to be noticed and condemned. The size of the natural lung does not make much difference. Small lungs may be just as healthy as large lungs, when Nature has made them small and put them in a small body. The area of the chest is no criterion of the real condition of the lung which it holds; and all the mechanical contrivances for enlarging the chest by muscular exercises in order to give the lungs more room, are futile, as much so as Mr. Fowler's breathing cure, which would restore health by making the patient puff and blow like a steamengine. Other things being equal, a tall man will have larger breathing capacity than a short man; but there is no need that the short man should try to expand his chest in order to sup-

ply the lack of vertical motion in its rise and fall. In nearly all cases, the natural capacity and area of the chest are sufficient for all the uses of respiration.

But the capacity of the chest may be diminished by the habit of stooping, or by the abominable practice of tight-lacing. The grace of the wasp form in woman is almost always gained at the expense of the lungs. That tight belt and the armour above it, fatally compress the air-cells, and forbid all easy union of the acid of the air with the currents of the blood. The lung need not be enlarged from its natural size, but it can not well spare one square inch of the space which it naturally fills. Any thing which thrusts it away from its proper dwelling, where it has room and freedom, is bad and dangerous. Consumption is the proper sequel of corsets; they go with each other as harvest follows sowing. A quick eye can tell the internal state of the breathing organs from the form of the fashionable woman, without any auscultation or percussion, any inspection or palpation. And no absurdity can be worse than for one who binds the ribs in steel, to try inflation and long inspirations as the preventive of disease. A lung that is compressed can not take in as much air as one that is free, and the attempt to fill it over-full only strains and pains its delicate cells. The lung is not to be treated like a bale of cotton; and any wound to its elasticity provokes its decay. The war of hygeine upon tight waists must be positive, pitiless, and unceasing, for fashion is in nothing more destructive to human life than in this.

The lungs are injured also very often, by being overworked, strained, made to do more than any reasonable estimate of their powers would allow. A rare singer, like Parepa-Rosa, may be allowed on occasion to raise her voice in a "coliseum" before 50,000 people, above the roll of organ and chorus, but such rash experiments are pardonable only in exceptional cases and once in an age. Screaming in the open air to a crowd, in nine cases out of ten for one with strong lungs, and always for one with weak lungs, is a clear tempting of Providence. A seat in Congress is a poor reward for the peril to the lungs of one who "stumps" a Western District. The bad rhetoric of the mass meetings is not their worst offence. Many a consumptive has caught his death in his ambition to make himself heard in the din of a political caucus, or in the racket of a Fourth of July celebration. And there is a dangerous straining of the lungs, too, in the artificial tones which speakers use. The disease which sends the clergy to Europe so often, and not seldom to an early grave, is not caused by the quantity of their speech, but by its bad quality of tone; the voice which tells of the life eternal really hurries on the preacher to that eternal life, and he besecches in the literal character of a dving man. The "holy tone" wears out the lungs as surely as the blowing of horns in a band, or singing in a falsetto voice. Auctioneers, indeed, who strain the voice, sometimes live to be vigorous old men; but these oftener die before their time, or break down when they ought to be freshest. It is a mistaken counsel which would advise a weak-lunged youth to become a town crier, or an auctioneer, or a trumpeter, or such a preacher as the Methodist praised, who was glad that his minister could pound the desk soundly, and "holler loud enough in prayer for the Lord to hear."

And there are some occupations which endanger the lungs. One of these, the trade of the wind-instrument blower, we have already There are other mechanical purmentioned. suits which inevitably poison and injure the lungs by filling them with noxious vapors, or forcing foreign substances into them. A maker of white-lead can not hope to keep sound lungs. A grinder of iron or brass, can not, by any contrivance, keep the metallic dust out of his trachea and bronchial passages. In a flour mill, it is inevitable that the staff of life should saturate the lungs as it does the garments of the millers. Ground plaster may be good for the fields, but taken into the lungs, it only enriches the graveyard. Good lungs are out of the question in an atmosphere of dust, any kind of dust, street dust, vegetable dust, or mineral dust. Smoke, too, is another enemy of the lungs, wood smoke, or coal smoke, or tobacco smoke. The fume of the Narghileh, which the Persian passes through water before he inhales it, loses in the process something of its clogging carbon, but still chokes the lung which receives it. Pulmonary disease ought to be the normal condition of life in Birmingham or Pittsburg, where the air is ever full of soot and cipder. The spot and blemish of life there are not all on the outward show of the breaston its liven-but quite as much in its inner lining, in the irritation of its cells and membranes. And, of course, nothing can be worse for the lungs than the occupation of a charcoal burner, where even in the open air, the poisonous gas finds way in throat and nostrils and cumulates its burden. These poisonous gases may be breathed only in the infrequent experiments of the chemical lecture-room, and are there to be used with great caution and very sparingly. Nitrous oxide may give for a few moments the exhilaration of Heaven, and the vapor of ether may charm away pain in a delicious slumber, but no anæsthetic can safely be made an habitual draught in the lungs.

Trades which bend the body and hinder the free play of the lungs, by holding it in one position, are unfriendly to pulmonary health. A watchmaker, an engraver, a copying clerk run a risk in their duty beyond the risk to their eyes—the risk of weakened breath. It is safe to say that no one who has any tendency to lung disease should choose or follow any of these sedentary callings. A tailor is said to have nine lives, yet his attitude in work would naturally abridge a single life of a strong man. Consumption, we all know, is the destiny of the sewing girl, in three cases out of four, if she keeps in her garret. Her bent body, for twelve or sixteen hours of the day, would seal her fate, apart from the weariness of her muscles and nerves, and the bad air which she breathes.

And then there are the callings which require men to work in dampness and darkness, in cellars, in caverns, in wells, in mines; wreckers who go down under the wave, and colliers who live in the depths of the earth. These can not expect sound lungs, or exemption from cough and tubercle, so long as they invite disease in the air which they breathe. Vainly the economists attempt to show by statistics that mining is good for the lungs. Consumption nowhere finds so large a proportion of its victims as in the mining districts. Sunlight and dry air are the best food for the breathing function, a they are for the cheerful soul. A satisfactory answer to the Syren's call is that her submarine palace is too damp for comfortable breathing, and that human lungs have no room in those moist chambers on the floor of the sea. The milkmaid will have stronger breath than the fairest mermaid.

From what has been said thus far, there are obvious deductions which may be put in the form of practical advices. The first of these is, to exercise the lungs moderately. This counsel would seem needless in view of the fact that that every body has to use the lungs in breathing, that life can not go on without this use. But there are other wholesome uses of the lungs, which aid their breathing-power and promote their health. Talking is one of these, singing is another, laughing is another. The diaphragm is the chief factor in that play of the chest which makes what the pedants call its systole and diastole. A hearty laugh is as good

for the diaphragm as for the temper, and it works all the better for this shock. laughers can keep back pulmonary ills much more effectually than those who sigh and are silent. Talking, singing, and all natural use of the vocal organs, help to strengthen the lungs and to ward off disease. Loquacity forestalls the healing draught, and is good for the chest of the speaker, if it be pain to the ears of the listener. There is antecedent probability that an active larynx will secure a clear air-passage in the cells below, that the vibrations of this fan will send pure waves all through the labyrinth, as the fan sends pure air through the passages and cells of the hospital or the prison. This kind of exercise for the lungs gives more variety to their play, and expels from them what else must be expelled by coughing or in some spasmodic way. It is a fact that the talking men in a factory are less injured by the floating dust of wool or cotton, than those who are always taciturn. The morning song, for men and women, as much as for the birds of the air, cleanses the lung of the vapors which have fastened to it in the steady breathings of the filent night.

2. Sit upright, is the next counsel which we should give to those who would keep healthy lungs in a symmetrical chest. Round shoulders and a stooping gait are hereditary in some families, but in a majority of cases, these are the results of wrong posture in work or study. School children ought to sit upright as much as the king on his throne or the judge on his bench. There is no more melancholy sight than a row of pupils bending over desks, from which they are afraid to look up, lest they should meet the withering frown of their pedagogue and find the penalty of idlers. In reading, the book should be held up to the eye, and not draw the body downward; the shoulders should be thrown back, and not crooked to a hump. The great advantage of a military drill is not that it teaches precision of movement, but that it gives an erect carriage, both in sitting and standing, and so lets the lungs have a larger range of movement. Physiologists tell us that men breathe more with the lower part of the lung, women with the upper part; but it were better for men and women both to use every part of the lung, and all the appliances of breathing. This can only be when the body keeps its upright posture. Stooping, except for the moment, is never a healthy position for the body. A scribe needs to be erect in his task, as much as a Pharisee in his pride and his selfrighteousness-Mr. Dombey's clerk at his desk, as much as Mr. Dombey with his patronizing smile.

- 3. And not only should the habit of the body be upright, but there should be frequent change of position and of movement to keep the lungs in good condition. The stooping of the carsman does not harm him, because there is a backward motion of the body to balance the forward movement. In general terms, we may say, that variety of exercise is good for the lungs-riding, walking, exercise with the arms, which directly act upon the muscles of the chest. Good muscles and good lungs are very closely related, and when the lungs get out of order, the muscles are apt to fall away. No man needs the gymnasium more than the tailor and the watchmaker; it is quite as important for them as for the college student. Skating in the winter strengthens the lungs when it is not too long or violently indulged in. Perhaps this is a reason why the damp climate of Holland is less disastrous, and that consumption is less a chronic malady in that land than in England, that skates have such favor with all classes of the people.
- 4. And the mention of damp climate suggests another advice. Do not live or work in damp places. Breathe as much dry air as possible. $\mathbf{A}\mathbf{vo}$ id the neighborhood of marshes, pond-holes, and sinks. Wet cellars are not fit in the house where there is the heritage of weak lungs, and, indeed, are not fit in any house. A lake is pleasant in the landscape, but a dry hillside is worth more for the breathing organs. Even the grand sea-shore, with its bracing gales, may bring diseases in its fogs and its damp night-air, which more than neutralizes the blessing of its coolness or of bathing in its waters. That there are some constitutions which seem to thrive in damp air, dose not lessen the force of the general rule.
- 5. The maxim of the quacks ought here to be repeated, "Cure your colds;" or rather it should . read, "Look out and not take cold." There are physicians who believe that occasional colds are very good for the system, the safety-valves by which disease works itself off harmlessly as the lightning-rods upon a house ; who hear music in an echoing cough as much as in an echoing laugh, and would let this do all its sanitary work. Yet in spite of their feeling, there is to a large part of men and women danger in a cough, danger in taking cold, which more than meets its possible benefit. There are safer ways of cleansing the body of its secret troubles. A "common cold" is often the beginning of a fatal bronchitis or phthisis. It must needs be

that in our varying climate, with the exposures that are inevitable, colds will come; but woe to the man who deliberately or rashly tempts them, who uncovers his throat in the draught, and sits with wet feet, and checks in any hasty way the perspiration of his skin. When the breathing of the skin is hindered, the breathing of the chest will show the wrong done, in its irregular movement.

6. A final counsel, more necessary than all the rest is, "Breathe pure air, if you would have sound lungs." It is wicked for a young girl with weak lungs to sit on the anxious-seat in a house of prayer, where the exhalations of a thousand bodies and the poison of carbonic

oxide fill the closed room, even if the preacher seem to her like God's angel. Pure air in the house, pure air in the hall, pure air in the workshop, pure air in the church, this is the prime necessity, and, without this, upholstary and painted glass, and labor-saving inventions, and the prayers of the man of God, are all mockery. Literal inspirations must be of that which gives life, before the inspiration of the higher life can be felt and realized. The gospel of pure air is the saving gospel to those who mourn that so many are cut off in the morning of their days, and that consumption is the sourge of the race of man.

Value of a Large Supply of Food in Nervous Disorders.*

BY G. FIELDING BLANDFORD, M.D., F.R.C.P.

A MONG the various therapeutical agents and innumerable drugs advocated and employed for the relief of nervous weakness, and the cure of the disorders which thence arise, it is possible that the unaided effects of food may not in all cases have met with the trial they deserve. Patients thus afflicted are told to live well and adopt a generous diet, but the generosity of this is usually estimated by the amount of port wine or other alcoholic stimulant, rather than by that of the bread, mutton, or beef.

Certain chronic invalids who have been brought under my notice have been lifted out of their former condition of "nervousness" by an increase in the quantity of their food. They have been people suffering from some general neurosis, taking the form of an insanity of a low and depressed character, or hypochondriasis, hysteria, alcoholism, or neuralgia, affections closely allied one to another, which may be witnessed in one form or other in individuals inheriting the same neurotic temperment. We may see different members of the same family displaying one insanity, another neuralgia, a third hypochondriasis, while the conversion of one variety into another is a matter of every-day observation.

If we inquire into the past history of nervous patients, and have the opportunity of learning accurately the facts thereof, we often find that

for a considerable time the supply of daily food has been in no degree adequate to the necessities of the individual. Here is a common case. A man somewhat past middle life, but whose years do not imply senile decay, becomes unfit for business, fidgety, irritable, depressed, or even melancholic to the extent of insanity. We hear that he has been a hard-working man of business, always nervous, and very probably an indifferent sleeper. Being most heavy for sleep in the morning, he has risen at the latest moment, and, snatching a mouthful of breakfast, has hurried off to catch the train or omnibus, wurried and anxious lest he fail to reach his office at the hour appointed. At lunch-time, if he bereally hard-worked, he takes, not a meal, but a sandwich or biscuit, eaten perhaps standing, and often bolted in so great a hurry that digestion is difficult; he tells us that he dare not take more of a meal in the middle of the day, for he would be rendered unfit for the remainder of his work. In the evening, with what appetite he may, he eats his dinner, perhaps not before 7½ o'clock. Now, granting that his dinner is amply sufficient, such a man lives on one meal a day with very little beside. These are the persons who can not go on without frequent holidays; nervous by inheritance, they break down because they are insufficiently fed. A holiday, during which they live better, builds them up again for a time, again to break down; often to fall into the condition above-Another class among whom we mentioned. may frequently witness the same result and cor-

This argument is not an indiscriminate plea for stuffing and gluttony, but has particular reference to a special class of persons who eat far too little.—En. H. or H.

responding symptoms are the clergymen who for various reasons deny themselves an adequate amount of food. Either they fast rigidly, according to the rule and doctrine of the day, often allowing some hours to elapse before they break their fast, or they think that hearty eating is a snare and a carnal enjoyment, or they hold it sinful to eat their fill while others are in Whatever the cause, certain it is that many of the clergy break down in one or other of the forms of nervous disorder already enumerated, and an enlarged dietary is to them a necessity. A vast number of women for one reason or other, take a very small supply of food; some think it unladylike to eat heartily; some eat on the sly, and when this is not practicable go without. Many, from the lives they lead, are doubtless correct in saying they can not eat, because they have no appetite. These stay in the house from month to month, or never venture beyond the door except in a carriage, because ladies do not walk in the streets. Others have misgivings on the score of their digestion. Like many women who lead sedentary lives, and habituate themselves to passing long periods without action of the bowels, they suffer greatly from constipation, which is looked upon as an indication and a warning that they ought not to eat. So they starve themselves, and fancy that if they abstain from food it is of little consequence whether they pass a motion once a week or once a fortnight.

It may be well to consider somewhat more in detail the various neuroses which have been mentioned.

The first on the list is low nervous depression, commonly known as melancholia, the most formidable of all that have been named, the one most likely to run in a short time to serious and even fatal insanity, but which, if arrested at an early stage, is often singularly amenable to treatment. In almost every example of this variety, and almost from the commencement, we find a marked disinclination to take food, and in extreme cases it can only be administered by some kind of forcible feeding. In milder cases, and at an early period, it will be taken if we insist upon it, and the result of a large supply is frequently manifested in a very brief time. It has been ascertained by many writers that refusal of food on the part of malancholia patients is due to dyspepsia, and in confirmation of this opinion they point to the foul and furred tongue, the obstinate constipation, and the fetor of breath so constantly observed in such patients; but this condition of tongue and fetor are due, I am convinced, not to gastric disturbance, but to the generally depressed and devitalized state of the individual; and the best proof of the absence of dyspepsia is that, although we suddenly compel the ingestion of what, compared with that previously taken, may be called an enormous quantity of nourishment, the stomach by no means rejects it, but, on the contrary, retains and digests it, as is shown by the rapid amelioration which takes place. It is inconceivable that dyspepsia can be the cause of refusal of food when the administration of it is unattended by sickness or inconvenience, even when that which is taken into the stomach is not light invalid diet. From my own observation, and from the subsequent confession of patients, I am inclined to believe that the refusal of food is in almost every case the result of delusion, this being in turn the result or interpretation in consciousness of the extreme nervous depression and exhaustion under which they are laboring. They are too wicked to live, too wicked to eat; it is sinful to pamper their flesh and their appetites; they beg for cold water and dry bread, but the idea of a good dinner their soul abhors. If we see such sufferers at an early stage when forcible feeding is not necessary, and they will take that which is ordered, merely protesting against the uselessness or wickedness of the proceeding, we may prescribe a large amount of food without fear, nay, with a confident expectation of the greatest benefit. What the food is to consist of is a point on which little need be said. It is not necessary to adhere to 'a sick diet-to beeftea or boiled mutton, to essences of beef or Liebig's food, or any of the concentrations so loudly recommended. The ordinary wholesome diet-list of the individual in health may be given without hesitation. His appetite should be stimulated by variety, and his dishes may be savory as well as wholesome. Such patients for the most part have accustomed themselves to eat during the day a scanty and insufficient amount, and we shall be told that latterly they have not taken half their usual quantity. It is not too much to say that they require double that which they have so long taken.

Now the latter, and it may be the friends, will protest loudly that it is impossible to take this quantity; he will assign every conceivable reason for avoiding it; but if we are firm and insist, and, if necessary, cause him to be fed with a spoon, he will retain and thrive on it, and in a few weeks, or even days, will show very marked signs of its good effect. Patients have recovered under this treatment in a singularly rapid manner. Some learn in a short time to appreciate the benefit of the food, and miss

their meal if from any cause they are unable to take it at the appointed hour, and some have gone on for years after their recovery, taking not the quantity prescribed during the acute stage of their illness, but one very much larger than that on which they had endeavored to live for so long, and under such a change of regimen have lost all trace of the depression and hypochondria from which they formerly suffered. Although beef-tea, chocolate, and milk have been mentioned as articles of diet, it by no means follows that liquids are to predominate; on the contrary, solid food is far better as a sodative, and also far more nutritious, and it may be taken as in health.

It is rather, however, in chronic alcoholism that the good effects of food may be witnessed. Here it is of the greatest consequence to abolish alcoholic stimulants entirely; in fact, in such abolition lies the only hope of effecting the reformation of the chronic drinker. The intense sinking and craving for the accustomed stimulus may often be effectually met by food. Such patients are unquestionably most difficult to deal with; they assign reasons of all kinds for rejecting food, and for being treated by their favorite remedy. They are faint, they require support, they suffer from stomach ailment, from pain, from want of appetite, nausea, or sinking; but they rarely vomit that which they take if drink is withheld, and this is a tolerably sure sign that the stomach is equal to the digestion of the food. The symptoms of alcoholism need not be here described; but whether they be the transient and immediate results of a heavy debauch, or the graver signs of commencing degenerative change of the nervetissues, which runs on to alcoholic paralysis, epilepsy, or dementia, food is equally demanded, and is in fact the one thing which can arrest this degeneration by supplying nutritive elements in large quantities. The recovery in such cases is often astonishing. I lately saw a young man who for many weeks was completely paraplegic, but who nevertheless entirely regained the use of his limbs. The recoveries, too, from alcoholic dementia are often equally surprising; in fact there seems scarcely any state from which recovery might not take place if the disease has not existed for a long period, and if we are able to withdraw all alcohol, and administer nourishment in large quantity.

There are a number of people whose nervous temperament displays itself in symptoms which are called, in common parlance, hysterical or hypochondriacal. While young they are termed hysterical, especially if they are women; when

older they are known as hypochondriaes, and their nervousness then takes for the most part the form of depression and anxiety, or even suffering, on account of some fancied bodily disorder.

Few of these will be found to take an adequate supply of proper food, and those who take the least will present the most distressing symptoms of their disorder. The hypochondriacal direct their attention to the digestive organs more frequently than to any other region. They suffer from constipation, flatulence, and a host of other evils, and for this reason either shun food, or eat most unwholesome and extraordinary combinations irregularly or at long intervals. Hysterical women-I am not now speaking of young girls-are specially prone to eat irregularly; to take food, if possible, when unnoticed; to eat altogether a very inadequate quantity, and to eke it out by an inordinate proportion of stimulants. If we look at such, especially the hypochondriacal, their whole aspect betokens innutrition. Often they are miserably thin; if they are given to drink they may be fat, but their flabby tissues speak of low organization and defective power. It is evident that the nervous energy of such people is very low; this is manifested by their mental depression and disturbance, and the defect must be supplied from some quarter or other. But whence can a supply of force come except from the material of food taken into the system by the alimentary organs? Moral measures are, it is said, and said truly, essential to the recovery of such persons. But moral measures constantly fail, because the bodily health does not allow of mental improvement, and is not pari pass attended to. As in more marked mental aberration no amount of argument, proof, or moral sussion will expel a delusion which vanishes of itself when the bodily health is renovated; so change of scene, of persons, and moral treatment of every kind, will fail with the hysterical or hypochondriacal so long as they try to live upon physic or alcohol, or upon a diet almost devoid of nutritive elements.

It may be objected that some hypochondriscal patients eat, not scantily, but enormously, taking more than is necessary for a person in health. Such are to be found, but in my experience they are the least to be pitied of their class. Though nervous about themselves, and prone to take notice of the slightest indication of any thing they may think an ailment, they are not generally depressed or unhappy, but, after a fashion of their own, they exert themselves, and enjoy life. Such people, I believe, take

this amount of food from a feeling that it is to them a necessity, and thus they keep at bay the graver nervous disorder which perpetually threatens them. Food is to them a stimulus, and were it withdrawn they would speedily show signs of more serious mental mischief.

The only other subject on which I propose to say something is neuralgia. It is obvious that any observations on it must be of the widest and most general character, and that no account can be taken of the special forms of this neurosis, or of any pathological changes connected with it. Believing with many others that neuralgia is one manifestation of impaired sensibility, as other neuroses may be displayed in mental symptoms, and in these alone I think that the radical cure, and not the mere alleviation, is to be found in many cases in the supply of a large amount of nutriment to the nervous system. The confessed failure of drugs in the case of neuralgias, and the mere temporary alleviation by such methods as hypodermic injection, inhalation, or a dose of alcohol, point to the necessity of some more general mode of treatment, which shall effect a greater change in the functions of the nervous organs. Whatever the form of food specially indicated, it generally will be found that the entire amount requires to be increased, and that the quantity taken for a series of years has been deficient. It may be that the alimentary system of elderly persons will be found incapable of assimilating the requisite On the intractable nature of the neuralgias of the aged, nothing need here be said.

With two remarks I will conclude. First, in all chronic forms of neurosis, alcoholic stimulants are a hindrance rather than a help-are productive of evil rather than of good. Secondly, in such disorders the fear, so commonly entertertained both by doctors and patients, of "overloading the stomach," producing "biliousness," and the like, is in the majority of cases not realized. Great opposition will be offered by patients, and every kind of evasion attempted. They will swallow bottles of medicine far more willingly than they will eat sufficient meals at regular intervals. To induce them to do this is often a difficult task, and here moral handling is required. If this is judiciously applied to the patient and the patient's friends, some very remarkable results may be attained.

MIGHTY MEN AND WOMEN IN EVERY GENERATION.—That small hand, tireless in mischief, cutting and hammoring at things until

you are distracted, may be in that fashion feeling its way toward some achievement in the arts, that shall lighten all the burdens of life, and give man for evermore a new advantage in his strife with nature. There may be a surgeon, or a singer, or a preacher, or a painter, or a man very deep and wise in science or in government, or in the comprehension of mind or matter; or a woman whose path shall be as the sun shining more and more unto the perfect day; these may be among those little ones that are coming up about you in the home, or that you are teaching in the school -so weary at your task sometimes that you hardly know what to do. This at any rate is the clear certainty; that besides the regular rank and file, the men that are always needed to work in the common day's work of the world, there must be mighty men and women in the new generation, as there have been and are in this; preachers that shall win the world to hear them; reformers who shall storm it; statesmen who shall be its great ministers, and poets who shall be its chief singers; all the men and women who are needed to make the next age greater and better than this (and much as we are inclined to cry down our time, when we get to feeling dismal, it will take no small pattern in any thing to do that). These are all coming through your homes; they are in their cradles, or waiting for their time to be born; and they will come quietly into the world, in cities and backwoods, in the mansion and the cabin-and in the cabin more than the mansion, for the first-born sons of God always seem to take to the stable and the manger. And in some way they will at last begin to give hints of the greatness with which they come invested. None will know it, except, perhaps, their mother-and she will not understand it, but, like Mary, she will ponder over it, and hide these things in her heart; and then the day will declare it, and these great ones will take their places among the immortal men and women of the earth .- Robert Collyer.

A Gem.—If Christianity was compelled to flee from the mansions of the great, the academies of the philosophers, the halls of legislators, the throng of busy men—we should find her last retreat with woman at the fireside. Her last audience would be the children gathered around the mother's knee; the last sacrifice, the secret prayer escaping in silence from her lips, and heard, perhaps, only at the throne of God.

Health Reform.

THO can count the value of health? Who shall say the glitter of wealth Can compensate for its loss? Is it not all as worthless dross? What is health? A blessing far greater Than any other from our Creator; For with it comes the power to bring to view Whatever in man is noble and true. Without it, we walk the earth A stain on God's creation. And where's the blame? We're all sick, both young and old; 'Tis the story most often told. We meet a friend: "How do you do?" "Not very well-about sick-thank you." And so we groap and sigh, and by-and-by-Too soon, alas!-we droop and die. Why is it thus? Can no help be had? "Is there no balm in Gilcad ?" We see in life the means precede the end- The effect must have a cause. Extend The knowledge—the reason why Mankind are sick, suffer, and die, And a remedy we may obtain To relieve the few days that for us remain; And give to our children a heritage That shall insure for them a ripe old age, Free from the woe's of dyspepsia's blight, Which hangs o'er us a pall blacker than night. Why are we sick? Did God design His crowning work should thus resign His manhood to a fell disease, Till his inmost soul cries out: "Release, O give release to this foul clay. That hence on wings I may soar away-Go where this night shall turn to day!" Ah! soul of mine, know thou yet may See, e'en here, the light of day, If theu wilt but assert thy might In thine own house, and set it right. We're sick because our parents were. They knew not that with them was the power To bless or curse the unborn babe. And so on us their ignorance laid.

When first to light we ope our eyes, Disease hath marked us for its prize : Leaving our Mother Nature's care, We're kept on artificial fare. When to years of knowledge we have come. We're not taught of the soul's home-Its structure, how it is built and why, How to keep it in repair that it may not die: Our appetite we serve, not consulting reason, Bowing to it both in and out of season. We dress to suit Dame Fashion, And blindly follow every passion. Where's the blame? Why are we thus? First, 'tis our parents, who to us Have given the downward tendency-A poor, unasked-for legacy; Then, we ourselves have learned no better, But tightened, rather, the galling fetter. 'Tis ignorance that binds us so, And makes this earth a scene of woe. Know thou thyself, O man, if thou Wouldst to thy highest nature bow. Seek wisdom of the laws God gave To save you from an untimely grave. Dispel your ignorance by the light of truth, Would you renew and preserve your youth. Your lower powers keep in their place, Lest they your higher should disgrace. Say to your soul: "Thou art my Lord-Sit on the throne, I'll obey thy word. Come hither! reason will, and taste, No more thy wondrous powers to waste; Say what is good, and right, and true, For this thy instrument to do; That on it ye may play both grand and sweet, Its owner's highest needs to meet.". Seek thou for knowledge. 'Tis a dower That gives to us unbounded power; With it our bodies shall become Fit temples for the Spirit's home; And man, the noblest work of God, Shall pass no more beneath the rod; But rise to heights of being, grand Bryond our highest thoughts to comprehend.

"TWILIGHT."

Robert Southey, the Poet-laureate, and His Grave.

BY DR. LYDIA F. FOWLER.

E NGLAND, in the summer season, is a charming mosaic formed of an almost endless variety of beautiful gems. One of these gems, which may be termed "a vision of beauty," is the Lake District comprised in the counties of Cumberland and Westmoreland on the western coast. The lakes Windermere, Derwent Water, Ullswater, Grasmere, Conistan, Bassenthwaite, Crumnock, Ennerdale, Wastwater, and Rydal Water, with the surrounding scenery of Skiddaw, Saddleback, and Helvelyn Mountains, interspersed with rivers, rocks, glens, and waterfalls, call forth the admiration of all who behold them. I have seen them in summer, when Nature was garlanded in her gayest attire, and in winter, when Skiddaw was crowned with snow, and looked on a moonlight night as if it had been a younger brother of Mount Blanc.

I was standing on Orrest Head, which overlooks Lake Windermere, not long ago, when an
English lady exclaimed, "Have you as pretty a
lake in Americaf" I replied that "I never
compared the scenery of England with that of
America, for every thing in America was on the
grandest scale, while in England there was
beauty even in the smallest landscape, but that
I enjoyed both, and that it was not necessary
for the Falls of Lodore to equal the Falls of
Niagara—each was complete in itself.

Much as my soul is thrilled with the lovely scenery of the lake region, there are other attractions that make it a classical spot, for it contains the hallowed dust of both Wordsworth and Southey, and wherever English literature is read and appreciated, Grasmere and Keswick will be identified with England's worthy poets. While musing at Southey's grave in the little churchyard of Crosthwaite Church in Keswick, I thought a few interesting lessons might be gleaned from a brief summary of his life and labors. Many have an idea that none can rise to eminence in England unless they are wealthy or belong to the aristocracy by birth. I have carefully studied English history, past and present, and have come to the conclusion that genius will always find its level. It is a fact that the men who have made an everlasting name in England have generally come from the ranks of the people, and are only fettered by the titles that they have honorably earned. There were several circumstances that conspired to give Southey his peculiar bent of mind and distinguishing characteristics. First of all, he had a good mother, and though his childhood was not spent with her, yet he ever preserved the tenderest memories of her, and when she died he wrote to a friend: "I did not know how severe a blow her death was till it came. Take her for all in all, I do not believe any human being ever brought into this world and carried through it a larger portion of original goodness than my dear mother. Every one who knew her loved her, for she seemed made to be happy herself, and to make every one happy within her little sphere. Her understanding was 25 good as her heart. 'It is from her I have inherited that alertness of mind, that quickness of apprehension, without which it would have been impossible for me to have undertaken half of what I have performed. God never blessed a human creature with a more cheerful disposition, a more generous spirit, a sweeter temper, or a tenderer heart. I remember when I first understood what death was and began to think of it, the most fearful thought it induced was that of losing my mother, and I longed to die before her." What a fragrant wreath of inmortelles for a son to cast on a mother's grave! What woman would not be proud to merit such a glowing eulogy! I have always affirmed that the highest crown for woman is the maternal, and that the woman who has been the true and faithful mother, in every sense of the term, has not lived in vain, even though she is not known beyond the precincts of her own fireside circle. Southey's mother made the world the better for her living in it, for sho so impressed the mind of her son that he ever respected woman, and enshrined her in his heart of hearts as a holy being, and implanted in his mind such a love of virtue that the haunts of vice had no attractions for him. Had Byron been blessed with such a mother, she would, perhaps, have sanctified his genius, and so impressed him that before he died he would have blotted out one-third of his poems, and then he would have shone as a star of the first magnitude in the constellation of poets that brighten the world, in the estimation of all lovers of purity and goodness, as well as of genius. Secondly, Southey had a very peculiar childhood. His father was a linen-draper, and was not a very thriving business man; and as

his aunt, a maiden sister of his mother, had property of her own, she induced his father to let her have his little son when he was very young to live with her. The description that Southey gives of Miss Tyler, his aunt, in his autobiography, is very amusing, and if he could have grown into manhood without having manifested any of his own opinions, or had any individuality of his own, this aunt would probably have left him her property; as soon as she received the first intimation that he had a distant idea of marrying a charming young lady, she turned him out of house and home on a stormy night and would never see him again. But his early life was spent with her, and as her most intimate female friend had invested her property in the theater at Bristol, these two women were in the habit of visiting the theater every night of the season. They had free passes, and consequently felt it to be an imperious necessity to make the most of their opportunities, and though the little Southey was only four years old, his aunt considered that he was too old to be put to bed before they went. She accordingly took the little child with them, and the young child fairly revelled in the fairy, resplendent scenes that were nightly developed on the boards of a good theater, and his mind was thus early directed to the manifestation of an endless variety of the affections and passions. Every thing he saw was like reality to him, and his first book was Shakespeare. This graphic delineator was his first teacher. He also read Beaumont and Fletcher before he was eight years of age, and his beau-ideal at that time of a truly great man was the successful actor. Had he been encouraged to try his own powers in that line, he might have been one of England's most noted delineators of character before an audience on the stage. It was but a step, however, from the actor to the author, and the amusements of his childhood tended to direct his mind to the development of character by his fertile pen. He was never destined for fashionable society, and he gives an amusing account of his futile efforts to learn to dance when he was quite a child. In his after-life, though he had many opportunities to mingle with the fashionable world, he was never at home in fastionable society, and describes a dinner at the Duchess of Kent's, the Queen's mother, at which he was an honored guest, as a bore, or like a table d'hote on the Continent. The authors that delighted him when a lad were Tasso, Ariosto, Spencer, and Josephus. These he conned over and over till he became familiar with their style and peculiar beauties and attractions. He began to write

when only twelve or thirteen years of age, and had so much fertility of imagination and descriptive power, that, when about twenty, he says he looked over his poems and destroyed about ten thousand verses and condemned fifteen thousand as quite worthless. translations from Horace and Virgil when only fourteen, and it was predicted of him that "he would make another Virgil one of these days." His third era was when he was sent to a school at Westminster and essayed to have his poems published. He sent one to a paper published in the school, but it was "respectfully declined." Little did the managers of that magazine think that the unknown contributor that sent this poem would one day become poet-laureate when they who had sat as wise censors on his production would be entirely forgotten. When he had advanced to the upper classes he wrote a sarcastic article on corporeal punishment, and this was so keenly felt by the master that he threatened to prosecute the publishers. Though an apology was given, Southey was obliged to leave the school. This gave his mind more freedom and independence of thought. He soon after entered Baliol College at Oxford, and was destined for the church by his uncle, a clergyman, who defrayed the expenses of his education. The struggle in his own mind to please his friends and yet to satisfy his own conscience, was another important era in his life. When only nineteen years of age, he had the maturity of mind of a philosopher; for he wrote to a friend: "Let me have £200 a year and the comforts of domestic life, and my ambition aspires no farther." Yet, when he had the prospect of a good "living" in the Church offered him if he would only take "orders," he deliberated, and felt that he was not fitted for the sacred functions of a clergyman. He was too libertyloving, too progressive, hated pedantry, aristocracy, etiquette, and formality. He was foud of Plato and the philosophy of the Grecians, diligently studied the Latin and Greek classics, but finally decided that he would not become a clergyman. When only twenty he thought he would study medicine. He felt the absolute necessity of learning one of the three professions, and he exclaimed: "Every day I repine at the education which has taught me to handle the lexicon instead of the hammer, and this destines me to be a drone in society." He soon became disgusted with medicine, and it was well he gave up the study of it, for he would not have succeeded in making a practical physician. He wrote to a friend to try to get him some honorable occupation in London, or he

should be obliged to emigrate. About this time he became acquainted with Coleridge, who had left college at Cambridge, and who admired the literary talents of Southey. It was also about the time the whole world was convulsed with the contest between republicanism and aristocracy, and that the Revolution was changing the politics of France. Southey and Coleridge imbibed these progressive ideas, and they longed to live in an unshackled condition, and they enthusiastically resolved to go to America, and establish on the banks of the Susquehanna an association which they called "Pantisocracy," or the equal government of all by the holding of property in general. They intended to cultivate a large tract of land, to study literature in their spare moments, and that their wivesfor they would all marry before leaving England-should attend to the domestic labor. There were to be twenty-seven of these rare, choice spirits, and had the bubble not burst, America would have had in her midst three choice poet-farmers-Southey, Coloridge, and Shelley-each a transcendent genius in his own way, but devoid of every practical element of mind necessary in a farmer to make crops available for the necessaries of life. There was one important item to be gained before they could start on their Western trip, and this was money. the want of which haunted Southey nearly all his life and fettered his spirit. Southey had written his "Joan-d'Arc," and he thought, of course, that this being published he should have funds enough to enable him to leave England for ever. Imbued with these progressive ideas, he left Oxford, but found, alas! that no one would publish the poem of an unknown author. It was the author who was to make the publisher, and not the opposite. He could not obtain funds from any source. He had seen the young lady whom he wished to marry, and his aunt had heard of his intentions and sent him away from her home. He wrote to a friend: "If Coleridge and I could obtain a salary of £100 a year between us I should be happyshould have peace of mind and prospects of a domestic life. Worn and wasted with anxiety, if I am not at rest in a short time I shall be disabled from exertion and sink to a long repose." Thus wrote this generous-hearted, enthusiastic, noble-souled, but desponding youth at the age of twenty-one. When this earth is so full of every thing to make man happy, how sad it is to think that some go desponding from the days of early youth to the grave, simply because they are either not in their right place, or are lacking encouragement from those who

could open the doors or avenues of success to them after awhile. Southey and Mr. Lovell published a volume of poems, but it did not bring them much of the "needful." It was not a poetic age, and people were not disposed to encourage sesthetic ideas. Then Southey and Coleridge gave a course of historical lectures, which were well received and gave them a small sum. Southey commenced his "Madoc," which occupied him for sixteen years before he finished it. To write it he consulted the Bible, Homer, and Ossian. After various attempts to succeed, he thought he would publish "Joan of Arc" by subscriptions, but these were few and far between. One day he read a part of the poem to Mr. Cottle, a young bookseller of Bristol (Southey's birthplace). Mr. Cottle was so well pleased with both the poem and the young author, that he offered him fifty guineas for the copyright, and agreed to give him fifty copies for his subscribers. Mr. Cottle deserves to go down to posterity side by side with the post Southey; for the latter, in his after-life, when Fame had wreathed his brow with laurel, declared that if Mr. Cottle had not encouraged him in this way he would have given up to despair, and in all probability would not have become an author. It was all the more meritorious because, in those days, it was a rare thing for a volume of any size to be published out of London. Southey's uncle came from Lisbon and wished him to return to Lisbon with him. This was a fine opportunity to see the world, and he consented, but married his lovely Edith the morning he left, intrusting her to the care of Mr. Cottle's sisters. This was another great era in his life. Many would have considered it an imprudent thing for a poor poet to do, but he thought if he should die before the time for his return, some of his rich relatives would have sympathy for Edith if she were his wife, as she had been left penniless by the death of her father. He remained in Spain and Portugal for six months, gathering materials for his history of those countries. When he returned he commenced the study of the law; but if there are two subjects entirely antagonistic to each other, they are law and poetry. But he had to devise some way to provide the "needful" for himself and family. That he was naturally very domestic we can infer from the daydreams that he had of domestic comfort. Still he wrote: "It is necessary in this world to sacrifice the best part of our lives to acquire wealth, which generally arrives when the time to enjoy it is past." Alas for poor Southey! -this was almost like a prophetic enunciation

in his case. If ever one tried to master a diragreeable task he did when he applied himself to the study of the law. It was a joy to him to write or to study literature. This was his legitimate sphere. He could much more easily write an epic poem than a brief, and he declared: "I commit willful murder on my own intellect by the drudgery of law; and though I study diligently, I forget it as fast as I learn it. If I can only obtain a competence, I will have a bonfire of all my law books." His close study of a disagreeable profession and his sedentary habits gave him a serious heart difficulty, and he was obliged to abandon his law studies and go to Lisbon again. When he returned, Coleridge was living at Greta Hall, at the foot of Mount Skiddaw, in Keswick, near the lovely Derwept Water, in the midst of the most charming scenery of the Lake District. He invited Southey to come and make his home with him, as the Hall was large enough for them all; and as Southey and Coleridge had married sisters, this suggestion would please their wives as well. He wrote to Coleridge when only twenty-seven: "I yet have such dreams! Is it quite clear that you and I were not made for some better star, and dropped by mistake into this world of pounds, shillings, and pence?" At length he obtained a situation as private secretary for a short time; but this did not suit him, and he was again afloat. When "Joan of Arc" was in the press, he often had not eighteen pence in his pocket, and walked the streets at dincertime for the want of the means to buy a dinner. Still he continued to write on a variety of subjects, and his fertile imagination was never at a loss for themes. If he had not been obliged to live from "hand to mouth" he would have been very happy. At school he formed several friendships that continued through life. One of his friends-Mr. Wynn-sent to him £160 a year for many years, till he secured for him a pension from the Government of £200 a year. Then a friend left him £1000, but he purchased a life insurance for his family, and had to pay heavy instalments yearly, and devoted the generous bequest to the education of his son in Oxford University. He obtained a fair sum for his numerous writings, especially for his contributions to The Quarterly Review; but he had a passion for books, and many of his writings being histories and biographies, he was obliged to have many books of reference. When he died his library consisted of 14,000 volumes, and these he had collected not, as many do, for outward show, but for daily use. A peep into his daily life will almost bring the great and good

man before us. He was thirty-two, and in his prime; his children were like olive plants around his table, and his devoted Edith was his helpmeet in every way. He began the day with reading three or four pages of history after breakfast at 9; then he made selections from different authors, and wrote till dinner-time at 4, with the exception of a walk between 2 and 4; after dinner he had a short nap, we can suppose about "forty winks;" after tea he would read and write till supper, at 91/2; and after this he amused and was amused in the family circle. This was a charming life, but had a great deal of drudgery about it, for his pen had to bring every comfort into the family. He was ever ready to befriend those who were unappreciated in literary circles, and he was the champion for Chatterton, Henry Kirke White, and others, who had not succeeded so well as he had done. When made poet-laureate, at forty years of age, this added £90 a year to his finances; but he had many dependent upon him, and he was generous beyond his means. He lost several children, but when his favorite, precocious Herbert, was taken at ten years of age, he felt as if he had lost the flower of his flock-the one who would have followed his own profession in literature. But the severest blow was to come. He had lived a truly domestic life with his dear Edith; but at lastowing, doubtless, to her great anxiety about their resources and family cares, for the burden of economizing for the family had fallen upon her willing shoulders-Edith's mind gave way to the pressure, and he was obliged to take her to the York Asylum. Then he wrote to a friend: "I am shaken to the root; forty years she has been the light of my life, and I have left her this day in a lunatic asylum. May God, who has visited me with this affliction, give me strength and will to bear to the end. As true a helpmeet as ever man was blest with was she till she lost her senses. For thirtyeight years I have only had to provide the means in my own quiet way, and deliver them to one of the best stewards man ever had. The ways were her concern, and her prudence and foresight exempted me from all trouble as well as all care." It must have seemed almost like mockery to him at this time when Sir Robert Peel offered him a baronetcy. But he also inclosed a private letter to ask how he could assist him to the best advantage, or whether he could advance the interests of his son-in-law, who was a clergyman. Southey declined the baronetcy, but hinted that if his pension could be raised he should be better able to meet his cur-

rent expenses, as he had not written for popularity or for mere gain. Sir Robert Peel sent him word that he should have an additional pension of £300 a year; so that now he had, at sixty-one years of age, a living income of £534, and he was satisfied. But it had come when it was too late for enjoyment, for Edith's mind was shrouded in midnight darkness and pronounced incurable. Though she could have remained in the asylum, after she had been there a year and was considered harmless, he took her home again to Greta Hall, that he might watch over her till the spirit was released from its incumbrance of clay. She lingered for a couple of years and then quietly passed away, when he gives a mournful plaint, like a winter's dirge, and pays this glorious tribute to her memory. He wrote to a friend: "I feel as one of the Siamese twins would do, if the other had died and he had survived separately. During two-thirds of my life she was the chief object of my thoughts, and I of hers. No man ever had a truer helpmate; no child a more careful mother; no family was conducted with greater prudence or greater comfort. Every thing was left to her management, and she did so well that, except in the time of her sickness and sorrow, I had literally no cares. We were of the same age, and so completely was she a part of myself, that separation makes me feel like a different creature. While she remained I had no sense of growing old, or, at most, only such as mere lapse of time brought with it. was no weight of years on me; my heart continued young, and my spirits retained their youthful buoyancy. But now I have no one to partake with me the recollection of the best and happiest part of my life." Southey's domestic life was so bright that his heartfelt utterances make us feel that when he laid his Edith to sleep in the quiet churchyard he buried his own life with her, for he was only the shadow of his former self after be lost her, and wandered about a broken-hearted, grief-stricken man. His friends suggested foreign travel; but his sorrows could not be alleviated-his soulwounds were deep and vital. He began to lose his memory and his power of description. He had been an intimate friend of Caroline Anne Bowles, the gifted author, for many long years, and her sympathy touched his heart. After a lapse of time he brought her as his wife to Greta Hall to comfort him in his declining years; but it was doubtless to save him from the precipice to the verge of which he felt that despair was hastening him; for he was now unable to write, and very soon he listlessly wandered about his library, gazing upon his books, which he had so dearly cherished in his palmy days. He would often exclaim; "O memory, where art thou gone!" as if conscious that his powers of mind were waning. had for forty years so constantly applied his mind that the literary labors that he loved became a drudgery to him and overstrained his mental powers. He wrote forty-five different books, one hundred and twenty-six articles in The Quarterly Review, and many other magazine papers, and had commenced many other books, or planned them out, when his mind gave way. Southey had a peculiar temperament, which gave him a meditative cast of mind. He could easily have become a hermit. and devoted himself to his literary pursuits. He had great powers of analysis, criticism, and discrimination, and great perceptive, literary, and scientific powers of mind. His intellect was of the available cast, and he used all the knowledge he gained from books and observation. His Constructiveness helped him to devise ways and means to lay out and illustrate his subjects, and, with his sentiments and ideality gave him a high poetical cast. But he was not a practical, social man adapted to every-day life, was born about fifty years too soon, and will not be fully appreciated till he has been dead at least one hundred years.

They buried him on a cold, stormy morning in Crosthwaite churchyard, by the side of his Edith and his fondly-loved children. friends in different parts of the country raised several memorials to his worth. A bust was put in Westminster Abbey, another in the church in his native city, Bristol, and a beautiful recumbent full-length monument was erected in the Crosthwaite Church at Keswick. He looks as if he were resting from his reading, for he has a book in his hand, and one is almost inclined to stop softly about the church in order that his slumbers may not be disturbed. On one side of the monument are the following beautiful lines, written by his intimate friend, William Wordsworth:

"Ye vales and hills, whose beauty hither drew
The poet's steps, and fixed him here; on you
His eyes he closed; and, ye loved books, no

Shall Southey feed upon your precious lore; To works that ne'er shall forfeit their renown Adding immortal labors of his own;

Whether he traced historic truth with seal For the State's guidance or the Church's weal; Or fancy, disciplined by curious art, Informed his pen; or wisdom of the heart Or judgments sanctioned in the patriot's mind, By reverence for the rights of all mankind— Wide were his aims; yet in no human breast Could private feelings meet in holier rest. His joys, his griefs, have vanished like a cloud From Skiddaw's top; but he to heaven was vowed.

Through a life long and pure, and steadfast faith

Calmed in his soul, the fear and change of death.'

Alcohol's Necrological Record.

BY J. E. SNODGRASS.

T the commencement of the great Temper-- ance Reform, speakers and writers almost uniformly estimated the number of deaths from the use of alcoholic liquors as a beverage, in this country, at thirty thousand a year. By force of babit they have generally continued this estimate ever since, now and then adding ten or twenty thousand to it. In consideration of the much smaller population at the time referred to, perhaps that estimate was near enough to the truth for practical purposes. But now, with a population of at least forty millions, and the concentration of a large part of it in great cities—ever the centers of vice—a moment's reflection should be sufficient to satisfy any one that the estimate of thirty thousand a year, fearful as that announcement should be regarded, does not reach one-third of the deaths fairly attributable to this source of mortality alone.

Let us see if we can not find a basis for an estimate embracing probability, if not certainty. The latest register of the Postoffice Department gives the number of postoffices in the United States as twenty-eight thousand. Since it was issued, it is probable that at least a thousand more have been added under the reconstruction process in the Southern States, where a great many postoffices were discontinued, during the Rebellion, that have been gradually reëstablished since, and to supply the wants of the new sections of the West, so rapidly opened up to civilization by railroad facilities. But I am content to take the last report as the basis of the estimate which I propose. According to it, thirty thousand deaths a year would give only one and a fraction for each postoffice. Now, if each of the locations of these offices were nothing more than a country store or a tavern, it would be conceded that an average of one victim of intemperance to each would be a very moderate estimate, since there are precious few postoffices without some place where alcoholic liquors are dispensed. It is no uncommon

thing, especially at the South and the West, to find even the rural postoffice the center of several dispensers of liquor. Hence, supposing there were no villages at these postal points, one death to each would be below the probable truth. But, when we come to consider the thousands of villages in our wide and teeming country, each containing several taverns, stores, or other places devoted wholly or in part to grogselling, we readily see how the number of deaths from intemperance is multiplied. But then, again, we have thousands of incorporated towns and minor cities, embracing as they do several hundred liquor-dispensing establishments apiece. And still we have not included the numerous leading cities whose license boards reveal the existence of many thousands of liquor-sellers, to say nothing of such as sell in defiance of the license laws, wherein victims are made annually at a rate which would readily fill up the measure of the old "thirty thousand a year" estimate, without the aid of the rural or village destroyers.

In view of the foregoing facts—call them speculations merely, if you will—is it extravagant to estimate the victims of intemperance in this country alone, at one hundred thousand a year? I think it is not, but that, to the contrary, the truth would be found at a still more fearful figure than even that, appalling as the thought of it is!

In this fearful work of premature death, there are probably not less than one hundred thousand people engaged, or one in every two thousand of our present population, estimating it at forty millions, so that my inference only credits the liquor-sellers with one victim each in three hundred and sixty-five days. This they, themselves, will doubtless consider a very lenient view of the case, and in turn give me credit for being at least charitably disposed toward them, malum in se though their business is and ever must continue to be while tolerated in this otherwise happy land of ours.

Fruitfulness of the Human Mind.

BY REV. MENRY WARD BRECHER.

TE are not apt to be aware of the enormous fruitfulness of the human mind. There are some forty or fifty appetites, passions, affections, sentiments, and faculties, included in the organization of man, which minister either to his physical or his spiritual being. These are all of them open to excitement; and they are called into play more or less every day, and every part of each day, by natural objects; by social contact; by the exigencies of business and pleasure; by our own volitions, reflections, and automatic power. Though all these various appetites, and passions, and affections, and sentiments, and faculties are not acting at once, yet they so alternate in action that there are several of them acting together. For sixteen hours out of every twenty-four, there are some forty agents more or less active within you; and the product in each hour and each day must be immense, because the mind acts quicker than any other thing. You think ten times quicker than you can talk; for the man of muscle is vartly lazier than the man of thought. A man can think as much faster than he can speak, as he can speak faster than he can write. How quick you plan! but how slow you execute! The rapidity of mental operations eludes any man's estimate. If some invention of science should give the brain a recording power like that of the telegraph, it is probable that the thoughts, the fancies, the feelings, and the volitions of a single day would fill a large volume. Three hundred and sixty-five volumes in :a year would be written, if the definite reflections, motives, and emotions that every day pass distinctly through your mind, and have relation to your character and eternal destiny, should be printed in a book. What enormous fruitfulness! and how much of it seems to drop unnoticed!

It is simply impossible for a man to take note of such a flow of inward life. It is impossible for a man to take note of even that which is outward. How much of what you said yesterday do you remember to-day? Probably there was not much that was worth remembering; but if you tried, how much could you remember of it? There was vocalization there was definiteness of thought, separated from the flow of emotion, and fashioned into words; and yet, how much do you remember of the outward life of yester-

day? And, after all, that was not a ten-thousandth part of what took place. The things that are tending toward action are more than the things that accomplish action. Those thoughts and feelings which lie behind expression are immeasurably more fruitful than expression itself can be. And if you can not remember the outward life, how much less can you remember the inward life! It would be easier for a man to count the drops of the river that flows by him deep and rapid, than to count the thoughts and feelings and fancies that make the river of life which flows from the soul.

The very nature of the mind is such that the product is noiseless and without exponent; and no man can overhang his own soul and inspect his own experience. Thoughts and feelings shoot out in shafts, as it were, like pencils of light that carry the primary colors, and yet but seem to be one color. The amazing rapidity of mind-action in all its moods and complexities and combinations; the transitions and changes into different faculties and different keys, as it were, of the mind—who can trace these things?

If, in this fresh creation, when the pulse bounds to thoughts and feelings, and the nerves are fired, and life and action are inspired by them, they can not be recognized, how much less can we turn back to remember them! There is no book-keeper that puts them down. The mind keeps no account of them. And this vast multitude, this enormous army, of the products of your mind, march noiselessly, every day, in the soul.

The unconscious action of your faculties is even more energetic in forming character than the conscious and deliberate volition. And it is this silent, unconscious, mental action that is forming character—character being the generic name for all internal habits; that is, the habits which each appetite, passion, affection, sentiment, or faculty forms. Each one comes to a regular and methodical life. A certain tendency is established in each particular power of the mind.

This habit of faculty comes by simple, continuous iteration and repetition of action. It is a process which is going on without jar, without report, so easily so softly, so fluently, that nothing appears above the surface; and

men are fashioning every faculty, every power into definite and established relations to the future life. There is a certain moral impression being given to every single part of the mind.

The mind's action is like that of an engineer who works under water. He goes down in a diving-bell, and is hidden. The work progresses, and the structure rises, but it does not show above water at all. It is there, but it is deep-seated and concealed. And the eternal foundations of the mind's character are laid far down and strong, the work being so out of sight that men do not see it nor suspect it.

So it is that men are being destroyed by faults of which they have no conception. For faults, many of them, are just like mines with which men blow up bastions and towers of fortifications. Afar off, they by whom the work is done break ground, and hidden and unseen they dig till they have carried the mine under the foundation. And the occupants of the place know not what is going on till the last moment, when the tower leaps into the air, as if it were filled with life, and that which before was a strong defense is a heap of ruins. I know men who have a mine laid right under the curtain-wall, which only awaits the day and the hour when it shall be fired. I know men who continually walk over mines capacious enough to hold forty hogsheads of rum, but who do not know that it is under them. know men that have mines dug under the very port of their life by rank dishonesties. I know men that have vices enough utterly to destroy them. But they work under ground, and they will not notice them, and nobody will tell them of their danger, and they will perish. But though they do not know about these things, God knows about them, and the Devil knows about them.

It is true that some of these faults, such as carry inconvenience to men, or such as break out by reason of their strength into visible conduct, excite attention; but not one in twenty of all those mental operations which are inwardly working to form that eternal character which shall carry reward or punishment, joy or woe, excites men's attention, or ever comes to their remembrance. It is a terrible thing to have this engineering going on in a man, and he know nothing about it, and take no account of it.

Thus men are insensibly filling up the mold and frame of their character in entire ignorance. Their passions and thoughts and fancies are like so many clerks. Suppose a man should neglect his business, and give unlimited power to his clerks, and they, in his counting-room, should go on signing papers, filling up checks, running him in debt, tying up his affairs. and he should know nothing about it? You have not less than forty clerks; and there is not a day in which one or another of them does not use pen and ink that carry judgment in God's day of reckoning. They are writing what they please. Many of them are confidential clerks. One is Pride; another is Vanity; another is Lust of Power; another is Greed of Gain, and another is Selfindulgence. If they go on unrestrained, those clerks will break you, as sure as there is a God in heaven. Many a clerk has broken his employer. You do not know your own condition. Your eternal affairs are becoming involved, your spiritual interests are being hazarded, and you know nothing about it. All is done silently and secretly.

The matter is made worse because men fancy that they do know what state they are in. There is a degree of self-knowledge that, so far from being good, is positively harmful. The elements which are necessary to make a man acceptable in society are few and superficial. It does not take much to make a popular man. A kind of outside goodness, a sort of leniency toward other people's faults, the knack of making men happy by wit and mirth, the art of stroking men's love of self pleasantly-these qualities will make a very good fellow. Of the man who has them, the wife says, "He is such a good man;" the neighbors say, "He has his faults, but he is a clever fellow;" his companions say; "He stumbles, but he is a good fellow;" and he himself says, "I am a good fellow." Now, what is it that makes him good? What are the traits out of which his goodness springs? There is nothing that makes him good but the knowledge of how to tickle men's selfishness, and please them with themselves. His goodness is the most superficial of all possible things. And yet he congratulates himself on being good. A work is going on in him, in which every motive, every thought, every sentiment, every faculty, is constantly filling up a character which is based on selfishness and worldliness and disobedience to God; and yet he is all the time smiling and saying, "I am a good fellow."

Hundreds and hundreds of men are going straight to perdition; but that which is carrying them there is hidden from their view. They have secret thoughts enough to sink a ship, and yet they carry them buoyantly and

bravely. Nay, men anxiously and purposely hide the truth from themselves. They try to deceive themselves. They do not like to believe what is true, oftentimes. The fact that men are so engaged in other things that their attention is distracted from their own imperfections, that they deceive themselves by false measures, and that they do not want to know their own condition, has to do with the formation of their character. Men lapse and change almost unconsciously. Their whole nature and disposition are molded and fashioned without the slightest knowledge on their part. Here is a youth that is docile and humble, but aspiring and full of promise; and who would ever suppose that by degrees and gradations so gentle as not to leave a crease or a seam, he would grow up to be a hard and cruel man? And yet, such things are taking place every single year, and in every single community.

Here is a sensitive child, whose cheek becomes incarnadine at the thought of wickedness; and yet, being brought constantly in contact with evil, he goes through such a process of thinking and training that, step by step, he comes to a point at which it is no more trouble for him to thrust a dagger through a man's heart, and join in league with the greatest criminals, than at first it was for him to be pure and innocent. And, great as is the change that has been wrought in him, he can not point to the spot where, nor to the time when, it occurred. Little by little, and unconsciously, he passed from one extreme to the other.

How imperceptibly persons grow out of the free, generous, sympathizing youth, into narrow, close, selfish, stingy manhood! Such changes are frequently taking place; and they are to be noted as bad illustrations of the facility with which these silent, secret transformations go on in men.

Oh, that men were like chimneys! Although chimneys collect soot all the time, they can be cleaned. But men can not be cleansed from the soot which they collect in the smoke of life. Men become dirty from the handling of the world. And nothing suffers so much in men as do the higher and nobler and better feelings. The worst things in men are the least injured, just as the hardest part of a tree suffers the least by handling. The finer emotions of the mind are like blossoms that will not bear being handled much, that become quickly soiled, and that soon wilt and wither. Generosities, purities, the moral aspirations, the romantic part of a man-these are the things that soonest crumble and fall to the ground. And this takes place by a process so subtle, so silent, so imperceptible, that few men can tell where the good ceased, where the bad began, or where the bad went to worse.

Consider that these changes are the most important that can happen to a man. Men can not, of course, too much hate crimes and vices; but these may be more fatal to the character than vices and crimes. Crimes and vices may be of two kinds. They may be occasional, intermitting experiences, or they may be simple exponents of the general character. Where vices and crimes are pimples that indicate the habitual state of the blood, the man is corrupted all through; but a man may now and then have a pimple when his blood is not very had.

Although you ought to hate crime and vice, and although I would not have you esteem it to be less heinous than you do, what I wish to impress upon you is, that there may be a moral state that does not commit vice and crime which is favorable to their commission. If a man once a year commits a dishonest act, and is honest with that exception from year's end to year's end, the occasional lapse bears no proportion to a uniform tendency to dishonesty. If a man is sober, and touches no intoxicating drink during the whole year till the ill-fated first of January, and then he goes around to see his friends who unkindly tempt him with wine, and he gets drunk, what proportion does that single day of intoxication bear to all the twelve months, lacking one day, of temperance? And, on the other hand, if a man is drunk twelve months, lacking one day, and is sober only on the first of January, what proportion does that single temperate day bear to all the wallow of the beastly year?

It is possible for a man to abstain from outward manifestations of wickedness, and yet be wicked through and through. There is a paltry, narrow, unmanly kind of prudence which keeps a man back from lion-like wickedness. Guarded by such prudence, a man does not do any thing on a large scale. He does not venture at all. His sins are all mermaids. There is not a line on them. They are all as mean, and they indicate as much wickedness, as ains that are more overt and of greater magnitude. He never stole or robbed, nor committed what is called a crime, nor indulged in what goes by the name of vice; but there is not a throb of his soul that is not a throb of selfishness. There is not a pulsation of his life that is not a pulsation of pride. There is not a movement of his mind that is not a movement in the channels of vanity. He is corrupt in every part of his being, only his corruption is made up of infinitesimal depravities. He is sin-rotten. There are a great many such men. . They are keyed to selfish-Dess. Their purposes are selfish. All their Their whole conception ways are selfish. of living is selfish. There are men whose whole character has been built up with successive steps of invisible wickedness, until, although they are decent and law-abiding, and although they stand well in society, when God looks upon them he loathes them. But they do not loathe themselves.

I have taken notice, when they were tapping the gas-main, that the men who worked in the escaping gas all the time did not smell it, whereas those who came where it was but occasionally smelled it very sensibly. And I take notice that those who are constantly in the midst of the stench of their own corruption never mind it. This illustrates why, when God comes into the midst of wicked men so that they gain a perception of the divine character, they abhor themselves. Men have been measuring themselves by themselves, and comparing themselves with themselves. Selfish men have been judging themselves by relative selfishness, impure men have been taking their guage from impure men; and when God discloses the idea of manhood, how is it possible but that they should feel themselves to be sinners?

This is the secret, the rationale, the philosophy of changes which not unfrequently take place among men.

To all classes and conditions, then, here is a truth of the greatest practical importance—the certainty of a formative process that is going on within you; the relation of that which is formed to your eternal destiny; and your need of a revelation to yourself of what you are.

OUR STUDIES IN PHYSIOLOGY.

BY PROF. T. H. HUXLEY.

SIMPLE SENSATIONS-DELUSIONS.

DUT very few of our sensations are really simple. Most of those which we are in the habit of regarding as simple, are compounds of different sensations, or of sensations with ideas, or with judgments. For example, it is very difficult to separate the sensation of contact from the judgment that something is touching us; of sweetness, from the idea of something in the mouth; of sound or light, from the idea that something outside us is shining, or sounding.

The sensations of smell are those which are least complicated by accessories of this sort. Thus, particles of musk diffuse themselves with great rapidity through the nasal passages, and give rise to the sensation of a powerful odor. But beyond a broad notion that the odor is in the nose, this sensation is unaccompanied by any ideas of locality and direction: Still less does it give rise to any conception of form, or size, or force, or of succession, or contemporaneity. If a man had no other sense than that of smell, and musk were the only odorous body, he could have no sense of outness—no power of distinguishing between the external world and himself.

Contrast this with what may seem to be the equally simple sensation obtained by drawing the finger along the table, the eyes being shut. This act gives one the sensation of a flat hard surface outside oneself, which appears to be just as simple as the odor of musk, but is really a complex state of feeling compounded of—

- (a) Pure sensations of contact.
- (b) Pure muscular sensations of two kinds the one arising from the resistance of the table, the other from the actions of those muscles which draw the finger along.
- (c) Ideas of the order in which these pure sensations succeed one another.
- (d) Comparisons of these sensations and their order, with the recollection of like sensations similarly arranged, which have been obtained on previous occasions.
- (e) Recollection of the impressions of extension, flatness, etc., made on the organ of vision when these previous tactile and muscular sensations were obtained.

Thus, in this case, the only pure sensations are those of contact and muscular action. The greater part of what we call the sensation is a complex mass of present and recollected ideas and judgments.

Should any doubt thus remain that we do thus mix our sensations with our judgments into one indistinguishable whole, shut the eyes as before, and instead of touching the table with the finger, take a round lead pencil between the fingers, and draw that along the table. The "sensation" of a flat hard surface will be just as clear as before; and yet all that we touch is the round surface of the pencil, and the only pure sensations we owe to the table are those afforded by the muscular sense. In fact, in this case, our "sensation" of a flat hard surface is entirely a judgment based upon what the muscular sense tells us is going on in certain muscles.

A still more striking case of the tenacity with which we adhere to complex judgments, which we conceive to be pure sensations, and are unable to analyze otherwise than by a process of abstract reasoning, is afforded by our sense of roundness.

Any one taking a marble between two fingers will say that he feels it to be a single round body; and he will probably be at as much of a loss to answer the question how he knows that it is round, as he would be if he were asked how he knows that a scent is a scent.

Nevertheless, this notion of the roundness of the marble is really a very complex judgment, and that it is so may be shown by a very simple experiment. If the index and middle fingers be crossed, and the marble placed between them, so as to be in contact with both, it is utterly impossible to avoid the belief that there are two marbles instead of one. Even looking at the marble, and seeing that there is only one, does not weaken the apparent proof derived from touch that there are two.*

The fact is, that our notions of singleness and roundness are, really, highly complex judgments based upon a few simple sensations; and when the ordinary conditions of those judgments are reversed, the judgment is also reversed.

With the index and middle fingers in their ordinary position, it is of course impossible that the outer sides of each should touch opposite surfaces of one spheroidal body. If, in the natural and usual position of the fingers, their outer surfaces simultaneously give us the impression of a spheroid (which itself is a complex judgment), it is in the nature of things

that there must be two spheroids. But, when the fingers are crossed over the marble, the outer side of each finger is really in contact with a spheroid; and the mind, taking no cognizance of the crossing, judges in accordance with its universal experience, that two spheroids, and not one, give rise to the sensations which are perceived.

Phenomena of this kind are not uncommonly called delusions of the senses; but there is no such thing as a fictitious or delusive sensation. A sensation must exist to be a sensation, and if it exists it is real and not delusive. But the judgments we form respecting the causes and conditions of the sensations of which we are aware, are very often erroneous and delusive enough; and such judgments may be brought about in the domain of every sense, either by artificially contrived combinations of sensations, or by the influence of unusual conditions of the body itself. The latter give rise to what are called subjective sensations.

DELUSIONS.

Mankind would be subject to fewer delusions than they are, if they constantly bore in mind their liability to false judgments, due to unusual combinations, either artificial or natural, of true sensations. Men say, "I felt," "I heard," "I saw" such and such a thing, when, in ninety-nine cases out of a hundred, what they really mean is, that they judge that certain sensations of touch, hearing, or sight, of which they are conscious, were caused by such and such things.

Among subjective sensations within the domain of touch, are the feelings of creeping and prickling of the skin, which are not uncommon in certain states of the circulation. The subjective evil smells and bad tastes which accompany some diseases are very probably due to similar disturbances in the circulation of the sensory organs of smell or taste.

Many persons are liable to what may be called auditory spectra—music of various degrees of complexity sounding in their ears, without any external cause, while they are wide awake. I know not if other persons are similarly troubled, but in reading books written by persons with whom I am acquainted, I am sometimes tormented by hearing the words pronounced in the exact way in which these very persons would utter them, any trick or peculiarity of voice, or gesture, being, also, very accurately produced. And I suppose that every one must have been startled, at times, by the extreme distinctness with which his thoughts

^{*} A ludicrous form of this experiment is to apply the crossed fingers to the end of the nose, when it at once appears double; and, in spite of the absurdity of the conviction, the mind can not expel it so long as the sensations last.

have embodied themselves in very apparent

The most wonderful examplifications of subjective sensation, however, are afforded by the organ of sight.

Any one who has witnessed the sufferings of a man laboring under delirium tremens (a discase produced by excessive drinking), from the marvellous distinctness of his visions, which sometimes takes the form of devils, sometimes of creeping animals, but almost always of something fearful or loathsome, will not doubt the intensity of subjective sensations in the domain of vision.

ILLUSIVE VISIONS.

But that illusive visions of great distinctness should appear, it is not necessary for the nervous system to be thus obviously deranged. People in the full possession of their faculties, and of high intelligence, may be subject to such appearances, for which no distinct cause can be assigned. The best illustration of this is the famous case of Mrs. A. given by Sir David Brewster, in his "Natural Magic," the chief points of which I proceed to quote:

"(1) The first illusion to which Mrs. A. was subject, was one which affected only the ear. On the 21st of December, 1830, about 41/2 in the afternoon, she was standing near the fire in the hall, and on the point of going up to dress, when she heard, as she supposed, her husband's voice calling her by name. '---, -, come here! come to me!' She imagined he was calling at the door to have it opened; but upon going there and opening the door, she was surprised to find no person there. returning to the fire she again heard the same voice calling out very distinctly and loudly, '--- come, come here!' She then opened two other doors of the same room, and, upon seeing no person, she returned to the fire-place. After a few moments she heard the same voice still calling, 'Come to me, come! come away!' in a loud, plaintive, and somewhat impatient tone. She answered as loudly, 'Where are you? I don't know where you are,' still imagining that he was somewhere in search of her; but receiving no answer, she shortly went up-stairs. On Mr. A.'s return to the house, about half an hour afterward, she inquired why he had called to her so often, and where he was, and she was of course greatly surprised to learn that he had not been near the house at the time. similar illusion which excited no particular notice at the time, occurred to Mrs. A. when residing at Florence, about ten years before, and

when she was in perfect health. When she was undressing after a ball, she heard a voice call her repeatedly by name, and she was at that time unable to account for it.

"(2) The next illusion which occurred to Mrs. A. was of a more alarming character. 4 o'clock in the afternoon, Mrs. A. came down stairs into the drawing-room, which she had quitted only a few minutes before, and, on entering the room, she saw her husband, as she supposed, standing with his back to the fire. As he had gone out to take a walk about half an hour before, she was surprised to see him there, and asked him why he had returned so soon. The figure looked fixedly at her with a serious and thoughtful expression of countenance, but did not speak. Supposing that his mind was absorbed in thought, she sat down in an arm-chair near the fire, and within two feet, at most, of the figure, which she still saw standing before her. As its eyes, however, still continued to be fixed upon her, she said, after the lapse of a few minutes, 'Why don't you speak?' The figure immediately moved off toward the window at the further end of the room, with its eyes still gazing on her, and it passed so very close to her in doing so, that she was struck by the circumstance of hearing no step or sound, nor feeling her clothes brushed against, nor even any agitation in the air.

"Although she was now convinced that the figure was not her husband, yet she never for a moment supposed it was any thing supernatural and was soon convinced that it was a spectral illusion. As soon as this conviction had established itself in her mind, she recollected the experiment which I had suggested of trying to double the object; but before she was able distinctly to do this, the figure had retreated to the window, where it disappeared. Mrs A. immediately followed it, shook the curtains, and examined the window, the impression having been so distinct and forcible, that she was unwilling to believe it was not a reality. Finding, however, that the figure had no natural means of escape, she was convinced that she had seen a spectral apparition like that recorded in Dr. Hibbert's work, and she consequently felt no alarm or agitation. The appearance was seen in bright daylight, and lasted four or five minutes. When the figure stood close to her, it concealed the real objects behind it, and the apparition was fully as vivid as the reality.

"(3) On these two occasions Mrs. A. was alone, but when the next phantom appeared, her husband was present. About 10 o'clock at night, when Mr. and Mrs. A. were sitting in

the drawing-room, Mr. A. took up the poker to stir the fire, and when he was in the act of doing this, Mrs. A. exclaimed, 'Why, there's the cat in the room!' 'Where,' exclaimed Mr. A. 'There, close to you,' she replied. 'Where?' he repeated. 'Why, on the rug, to be sure, between yourself and the coal-scuttle.' Mr. A. who had still the poker in his hand, pushed it in the direction 'Take care,' cried Mrs. A., 'take mentioned. care! you are hitting her with the poker.' Mr. A. again asked her to point out exactly where she saw the cat. She replied, 'Why, sitting up there, close to your feet on the rug; she is looking at me. It is Kitty-come here, Kitty!' There were two cats in the house, one of which went by this name, and they were rarely, if ever, in the drawing-room.

"At this time Mrs. A. had no idea that the sight of the cat was an illusion. When she was asked to touch it, she got up for the purpose, and seemed as if she were pursuing something which moved away. She followed a few steps, and then said, ' It has gone under the chair.' A. assured her that it was an illusion, but she would not believe it. He then lifted up the chair, and Mrs. A. saw nothing more of it. The room was searched all over, and nothing found in it. There was a dog lying on the hearth, who would have betrayed great uneasiness if a cat had been in the room, but he lay perfectly quiet. In order to be quite certain, Mr. A. rang the bell, and sent for the cats, both of which were found in the housekeeper's room.

"(4) About a month after this occurrence, Mrs. A., who had taken a somewhat fatiguing drive during the day, was preparing to go to bed at about 11 o'clock at night, and, sitting before the dressing-glass, was occupied in arranging her hair. She was in a listless and drowsy state of mind, but fully awake. When her fingers were in active motion among the papillotes, she was suddenly startled by seeing in the mirror the figure of a near relative, who was then in Scotland, and in perfect health. The apparition appeared over her left shoulder, and its eyes met hers in the glass. It was enveloped in grave-clothes, closely pinned, as is usual with corpses, round the head and under the chin; and, though the eyes were open, the features were solemn and rigid. The dress was evidently a shroud, as Mrs. A. remarked even the punctured pattern usually worked in a peculiar manner round the edges of that garment. Mrs. A. described herself as, at the time, sensible of a feeling like what we conceive of fascination, compelling her, for a time, to gaze upon this melancholy apparition, which was as distinct and vivid as any reflected reality could be, the light of the candle upon the dressing-table appearing to shine fully upon its face. After a few minutes she turned round to look for the reality of the form over her shoulder, but it was not visible, and it had also disappeared from the glass when she looked again in that direction.

"(7) On the 17th March, Mrs. A. was preparing for bed. She had dismissed her maid. and was sitting with her feet in hot water. Having an excellent memory, she had been thinking upon and repeating to herself a striking passage in The Edinburgh Review, when, on raising her eyes, she saw seated in a large easy-chair before her the figure of a deceased friend, the sister of Mr. A. The figure was dressed, as had been usual with her, with great neatness, but in a gown of a peculiar kind, such as Mrs. A. had nover seen her wear, but exactly such as had been described to her by a common friend as having been worn by Mr. A.'s sister during her last visit to England. Mrs. A. paid particular attention to the dress, air, and appearance of the figure, which sat in an easy attitude in the chair, holding a handkerchief in one hand. Mrs. A. tried to speak to it, but experienced a difficulty in doing so, and in about three minutes the figure disappeared.

"About a minute afterward Mr. 1. came into the room, and found Mrs. A. slightly nervous, but fully aware of the delusive nature of the apparition. She described it as having all the vivid coloring and apparent reality of life; and, for some hours preceding this and other visions, she experienced a peculiar sensation in her eyes, which seemed to be relieved when the vision had ceased.

"(8) On the 11th October, when sitting in the drawing-room, on one side of the fire-place, she saw the figure of another deceased friend moving toward her from the window at the farther end of the room. It approached the fireplace, and sat down in the chair opposite. As there were several persons in the room at the time, she describes the idea uppermost in her mind to have been a fear lest they should be alarmed at her staring, in the way she was conscious of doing, at vacancy, and should fancy her intellect disordered. Under the influence of this fear, and recollecting a story of a similar effect in a work on Demonology which she had lately read, she summoned up the requisite resolution to enable her to cross the space before the fire-place, and seat herself in the same chair with the figure. The apparition remained perfectly distinct till she sat down, as it were, in its lup, when it vanished."

It should be mentioned that Mrs. A. was naturally a person of very vivid imagination, and that, at the time the most notable of these illusions appeared, her health was weak from bronchitis and enfeebled digestion.

It is obvious that nothing but the singular courage and clear intellect of Mrs. A. prevented her from becoming a mine of ghost stories of the most excellently authenticated kind. And the particular value of her history lies in its showing, that the clearest testimony of the most unimpeachable witness may be quite inconclusive as to the objective reality of something which the witness has seen.

Mrs. A. undoubtedly saw what she said she saw. For there can be no doubt that exactly those parts of her retina which would have been affected by the image of a cat, and those parts of her auditory organ which would have been set vibrating by her husband's voice, or the portions of the sensorium with which these organs of sense are connected, were thrown into a corresponding state of activity by some internal cause.

What the senses testify is neither more nor less than the fact of their own affection. As to the cause of that affection they really say nothing, but leave the mind to form its own judgment on the matter. A hasty or superstitious person in Mrs. A.'s place would have formed a wrong judgment, and would have stood by it on the plea that "she must believe her senses."

DELUSIONS OF JUDGMENT.

The delusions of the judgment, produced not by abnormal conditions of the body, but by unusual or artificial combinations of sensations, or by suggestions of ideas, are exceedingly numerous, and, occasionally, are not a little remarkable.

Some of those which arise out of the sensation of touch have already been noted. I do not know of any produced through smell or taste, but hearing is a fertile source of such

What is called ventriloquism (speaking from the belly), and is not uncommonly ascribed to a mysterious power of producing voice somewhere else than in the larynx, depends entirely upon the accuracy with which the performer can simulate sounds of a particular character, and upon the skill with which he can suggest a belief in the existence of the causes of these sounds. Thus, if the ventriloquist desires to create the belief that a voice issues from the bowels of the earth, he imitates with great accuracy the tones of such a half-stifled voice, and suggests the existence of some one attering it by directing his answers and gestures toward the ground. These gestures and tones are such as would be produced by a given cause; and no other cause being apparent, the mind of the bystander insensibly judges the suggested cause to exist.

The delusions of the judgment through the sense of sight, optical delusions, as they are called, are more numerous than any others, because such a great number of what we think to be simple visual sensations are really very complex aggregates of visual sensations, tactile sensations, judgments, and recollections of former sensations and judgments.

When an external body is felt by the touch to be in a given place, the image of that body falls on a point of the retina which lies at one end of a straight line joining the body and the retina, and traversing a particular region of the center of the eye. This straight line is called the optic axis.

Conversely, when any part of the surface of the retina is excited, the luminous sensation is referred by the mind to some point outside the body, in the direction of the optic axis.

It is for this reason that when a phosphene is created by pressure, say on the outer and lower side of the eyeball, the luminous image appears to lie above, and to the inner side of the eye. Any external object which could produce the sense of light in the part of the retina pressed upon, must, in fact, occupy this position; and hence the mind refers the light seen to an object in that position.

The same kind of explanation is applicable to the apparent paradox that, while all the pictures of external objects are certainly inverted on the retina by the refracting media of the eye, we nevertheless see them upright. It is difficult to understand this, until one reflects that the retina has, in itself, no means of indicating to the mind which of its parts lies at the top and which at the bottom; and that the mind learns to call an impression on the retina high or low, right er left, simply on account of the association of such an impression with certain coincident tactile impressions. In other words, when one part of the retina is affected, the object causing the affection is found to be near the right hand; when another, the left; when another, the hand has to be raised to reach the object; when yet another, it has to be depressed to reach it. And thus the several impressions on the retina are called right, left, upper, lower, quite irrespectively of their real positions, of which the mind has, and can have, no cognizance.

When an external body is ascertained by touch to be single, it forms but one image on the retina of a single eye; and when two or more images fall on the retina of a single eye, they ordinarily proceed from a corresponding number of bodies which are distinct to the touch.

Conversely, the sensation of two or more images is judged by the mind to proceed from two or more objects.

If two pin-holes be made in a piece of cardboard at a distance less than the diameter of the pupil, and a small object like the head of a pin be held pretty close to the eye, and viewed through these holes, two images of the head of the pin will be seen. The reason of this is, that the rays of light from the head of the pin are split by the card into two minute pencils, which pass into the eye on either side of its center, and can not be brought to one focus on account of the nearness of the pin to the eye. Hence they fall on different parts of the retina, and each pencil, being very small, makes a tolerably distinct image of its own on the retina. Each of these images is now referred outward in the direction of the appropriate optic axis, and two pins are apparently seen instead of one. A like explanation applies to multiplying glasses and doubly-refracting crystals, both of which, in their own ways, split the pencils of light proceeding from a single object into two or more separate bundles. These give rise to as many images, each of which is referred by the mind to a distinct external object.

Certain visual phenomena ordinarily accompany those products of tactile sensation to which we give the name of size, distance, and form. Thus, other things being alike, the space of the retina covered by the image of a large object is larger than that covered by a small object; while that covered by a near object is larger than that covered by a distant object; and, other conditions being alike, a near object is more brilliant than a distant one. Furthermore, the shadows of objects differ with the forms of their surfaces, as determined by touch.

Conversely, if these visual phenomena can be produced, they inevitably suggest a belief in the existence of objects competent to produce the corresponding tactile sensations.

What is called perspective, whether solid or aerial, in drawing or painting, depends on the application of these principles. It is a kind of visual ventriloquism—the painter putting upon his canvas all the conditions requisite for the

production of images on the retina, having the form, relative size, and intensity of color of those which would actually be produced by the objects themselves in nature. And the success of his picture, as an imitation, depends upon the closeness of the resemblance between the images it produces on the retiua, and those which would be produced by the objects represented.

To most persons the image of a pin, at five or six inches from the eye, appears blurred and indistinct—the eye not being capable of adjustment to so short a focus. If a small hole be made in a piece of card, the circumferential rays which cause the blur are cut off, and the image becomes distinct. But at the same time it is magnified or looks bigger, because the image of the pin occupies a much larger extent of the retina when close than when distant.

The moon and the sun when near the horizon appear very much larger than they are when high in the sky. When in the latter position, in fact, we have nothing to compare them with, and the small extent of the retina which their images occupy suggests small absolute size. But as they set, we see them passing behind great trees and buildings which we know to be very large and very distant, and yet occupying a larger space on the retina than the latter do. Hence the suggestion of their larger size.

Whenever an external object is watched rapidly changing its form, a continuous series of different pictures of the object is impressed upon the same spot of the retina.

Conversely, if a continuous series of different pictures of one object is impressed upon one part of the retina, the mind judges that they are due to a single external object, undergoing changes of form.

This is the principle of the curious toy called the thaumatrope, by the help of which, on looking through a hole, one sees images of jugglers throwing up and catching balls, or boys playing at leap-frog over one another's backs. This is managed by painting at intervals, on a disk of card, figures and jugglers in the attitude of throwing, waiting to catch, and catching; or boys "giving a back," leaping, and coming into position after leaping. The disk is then made to rotate before an opening, so that each image shall be presented for an instant, and follow its predecessor before the impression of the latter has died away. The result is that the succession of different pictures irresistibly suggests one or more objects undergoing successive changes-the juggler seems to throw the balls, and the boys appear to jump over one another's backs.

EDITORIAL DEPARTMENT.



NEW YORK, NOVEMBER, 1870.

WATER.

"To the days of the aged it addeth length; To the might of the strong it addeth strength; It freshens the heart, it brightens the sight; 'Tis like quaffing a goblet of morning light.'

THE PUBLISHERS do not hold themselves as indorsing every article which may appear in THE HERALD.

They will allow the largest liberty of expression, believing that by so doing this magazine will prove to be more useful and acceptable to its patrons.

By Exchanges are at liberty to copy from this magazine by giving due credit to The Herald of Health and Journal of Physical Culture.

TOPICS OF THE MONTH...

BY M. L. HOLBROOK, M. D., EDITOR.

To the Reader.—In this number, according to previous announcement, we begin the series of papers entitled "A New Discussion of Temperance Problems." The first paper, published in this number, is introductory to the series, and in it the author puts this question in its true place among the reformers of the age. We are confident that the broad and comprehensive manner with which he discusses the significance of the movement will meet with a hearty approval among all classes. The work to be done in this field is immense. As a health journal we can not ignore its discussion, and it will be our aim to bring to our aid, as writers of this series of papers, men and women of acknowl-

edged ability-those thinkers and writers, who will help the cause. We ask now of our readers, who have quite as much interest in this work as ourselves, to see what they can do to roll up for us a a mighty tide of new subscribers for 1871. We want the help of every one now on our list. Is there any who can not at least send one new subscriber besides their own? Many can send ten, twenty, or even a hundred. Now is the time to begin the work. On another page wegive a New Premium List for those who wish to. work for premiums. We call especial attention. to the offers there made. None but good premiums will be sent out. We also call attention. to the offers for large clubs where persons wish for no premiums themselves, but wish to share them with subscribers. Friends and subscribers, consider the wish your own, and let us. hear from you at an early day.

PROF. WELCH'S SCHOOL OF PHYSICAL CULTURE.—

WEST BRATTLEBORO, Vt., September 7, 1870. TO THE EDITOR OF THE HERALD OF HEALTH: Dear Sir-Here, in this quiet village, nestled among the hills, is an institution bearing the name, Normal Institute for the Training of Teachers in Dio Lewis's New Gymnastics. Although it has made itself felt in many parts of the country, it is not generally known outside of New England; and I feel impelled, through the columns of your excellent journal, to give it a wider publicity, hoping thereby to aid this most worthy enterprise, and, through it, the great cause of physical culture in our land, which (thanks to Dr. Lewis and his co-laborers) is now beginning to receive the attention it deserves.

This Normal Institute was established, and is carried on, by Prof. F. G. Welch, a graduate of Dr. Lewis's late Normal Institute for Physical Education, Director of the Departments of Physical

ical Training in Dartmouth and Yale Colleges and the Wesleyan University, and author of the valuable work on Gymnastics and kindred topics, entitled "True Living."

The session of the Normal Class, each year, begins the latter part of July, and is mainly composed of persons who intend to make Physical Training a profession or a specialty. During the three years which have elapsed since the opening of this Institute, it has sent forty graduates into the field, and they will in a few days be followed by some twenty others.

The buildings used for the purposes of the Normal Class are those of the Glenwood Ladies' Seminary, owned and managed by R. E. Hosford, Esq., with Miss Mary E. Tenny, a lady of rare abilities, as Principal. A finer location for a school could hardly be found, unsurpassed as it is in beauty and healthfulness.

Annually, during the summer vacation, in addition to the Normal Class, large numbers resert hither from the cities for rest and recreation, attracted by the pure air and delightful scenery which abound in all this region.

It is not, however, to descant upon the advantages of Glenwood as a summer resort, but to give your readers information of Prof. Welch's beneficent undertaking, that I write; and I can not do this more acceptably, perhaps, than by adding a brief account of the recent visit from Dr. Lewis with which the Class were favored, and inserting a few of the remarks which he addressed to them.

On one occasion the Doctor delivered a very strong and pointed lecture on the subject of "Dress," which was listened to not only by the Class, but by the guests at Glenwood, and a goodly number of the villagers. In this lecture he inveighed severely against the many physiological vices of fashionable dress, and cast merited ridicule upon its less harmful follies.

On another occasion he advocated the education of the sexes together. From his remarks on that subject I make the following extracts:

"The separation of boys and girls in a school is always unfortunate. There are great advantages in their being taught together. As broth-

ers and sisters are born into the same family. and as the good Father has not separated them there, I would have them walk side by side all through life. In one of our Boston schools, at each desk sits one girl and one boy-and there are big girls and big boys among them. seems to me a sensible thing. The moment a school adopts this method, all necessity for discipline disappears. The school disciplines itsolf. Just as soon as you take a young man and a young woman out of the temptation to make "small talk," and put them together in the pursuit of any serious object in life, they are raised to a higher plane, where they get rid ot their nonsense, their interest begins to freshen, and their better nature begins to expand.

"As, then, the plan of the family, of the church, and of society, is that the sexes shall be together, let them not be separated in schools. It seems to me that the girls need the superior animal vigor of the boys; and the whole world knows that the boys greatly need the refining influence of the girls. They need each other; they complement each other; and they ought not to be deprived of the benefits of each other's presence in the various spheres of life to which they are called—not excepting the school."

In commenting upon the superiority of Light Gymnastics as a means of physical training, the Doctor gave an account of a movement in Massachusetts looking to the introduction of the military drill into the schools of the State, and of the manner in which a bill proposing to devote a large sum of money to that object was defeated. It seems that several influential gentlemen in Boston, fearing that much evil might result from the passage of such a bill, joined in an informal petition for a hearing on the subject; and Dr. Lewis was requested to oppose the measure, and advocate the introduction of Light Gymnastics into the schools. He accordingly appeared before the Committee of the Legislature to whom the matter was referred, with two of the best drilled soldiers he could find, and two persons thoroughly versed in the Light Gymnastics, and illustrated the two systems. As might be supposed, the Committee were unable to resist the conviction that the few movements of the military drill (only about two minutes and a half being required to go through the Manual of Arms proper, and only about six minutes to go through all the evolutions and changes belonging to the system) bore no comparison, for value in developing and strengthening the five hundred muscles of the body, with the almost endless variety of movements of the Light Gymnastics, which can only be gone through in hours, instead of moments.

At the close of the Doctor's visit, a vote of thanks was heartily and unanimously tendered him by the Class, for his kindness in coming among them, and for the valuable instruction they had received at his hands. He responded as follows:

"I am very grateful indeed for such an expression of your thanks; and I regard it as a real privilege and a great pleasure to have come out here to spend a short time with you.

"I am especially gratified to have Normal Classes trained by Prof. Welch. It seems to me providential. When my own classes were discontinued, I looked about to find some one who could take up this work; and it is a source of no little gratitication to me that he was, in the providence of God, placed at the head of this gymnastic movement as a teacher of teachers. There is no more devoted friend of education, broadly speaking, and of this branch of it, than Prof. Welch. There are only a few men who can occupy the position which he does in this movement, or toward whom I can feel as I feel toward him. Lifted up, as he was, in this department of Physical Culture in America; occupying positions in Dertmouth and Yale Colleges; talked of and written about more than I was in the same length of time, there was a great temptation for him to assume, at once, the authorship of these exercises. But under this temptation he, as an author and as a teacher of classes, has had the magnanimity, the square, manly justice, constantly to give me my proper place in the introduction of this system of Gymnastics. I therefore feel grateful to him. And I came with joy to contribute what I could, and next year, and other years, I shall be ready and happy to contribute what I can, to his success. It is a blessed thing, in the history of such a movement, to have a pure, high-minded, unselfish, noble man put forward in the land as he has been. I doubt whether there is another institution in America where a teacher, having such prominence as he has had, has accorded such open-armed, warm-hearted recognition to the author of that system; and therefore it is all the more precious to me."

I have been impressed with the superior intelligence of this Normal Class, and with their earnestness in preparing themselves for the work of physical training; and it is a gratifying fact that those who engage in this most important work are generally persons of character and education.

T. J. ELLINWOOD.

MEDICAL CONFESSION.—The doctors, now that they have found a hypnotic far less dangerous than the opiates which have been so long and persistently used to produce sleep, are making free to confess that opiates were injurious remedies. Dr. Hugh Bennet expresses what most of the profession admit, that he has not witnessed from the new hypnotic the ill effects so common after the administration of opiates. What the effect of the new remedy upon the system is, is perhaps best seen in the following statement of the physicians and surgeons of the Royal Infirmary of Edinburgh.

"The fact must not be concealed that often unpleasant consequences follow the administration of hydrate of chloral. In upwards of fifty observations, when forty grains were given—the progress of all of which we currelves had an opportunity of following out—in no less than seven the patients were greatly excited, four of them, in addition, being wildly delirious shortly after taking the medicine. This temporary delirium, although somewhat alarming at the time, passed off in all cases in the course of two hours, accompanied by the most profuse diaphoresis. In this number, about a dozen were afflicted with headache more or less severe, which, however, was also transitory."

We fear the profession will never find a remedy that will uniformly produce good and not harm, but we are most glad to have them take to less dangerous remedies.

BOXING AND PRIZE-FIGHTING es. Mo-BALITY.—A subscriber asks, "If a young man cultivates all the games and exercises of the athlete, if it will be likely to injure his moral faculties?"

ANSWER.—If he cultivates them to the neglect of his moral and intellectual faculties, Yes; if not, No. The higher faculties of the man and woman need care and nurture like the lower, or they will dwindle and expire. In our training we must always remember that harmony and evenly-balanced conditions are to be sought—not excess in any direction. The religious person is no less religious for being athletic and healthy; but if he devotes himself to prize-fighting, and such like exercises, and forgets religion, then he degrades himself.

It should also be remembered that in each person there is a limited amount of force, and that this may be converted into motion, heat, or thought; but if nearly all of it is used in one way, there is little left for other purposes. Each person must decide for himself what he will do with his strength; but if he has only a moderate amount of it, he ought to use it to the best advantage. This can only be done by knowing how best to live.

Tobacco and the Parotid Gland.—
The parotid gland is the largest of those three glands that secrete the saliva or spittle. It is situated below the ear, a little to the front, and its secretions are poured into the mouth at a point near the middle of the cheek. By looking into the mouth in a mirror the opening can be plainly seen. The office of the parotid gland is to secrete saliva to be mingled with our food preparatory to digostion. In chewing bread, for instance, if well masticated, about

fifty per cent. of saliva is added to its weight, and by far the largest share of this increase comes from this gland. The amount of this fluid required for health, to be furnished daily, can not be much less than three pounds. As we said before, this fluid mingles with the food, so that it can be easily swallowed and properly digested; but sometimes its use is perverted—as when people chew tobacco. This substance greatly excites the salivary gland, so that when tobacco is in the mouth it pours out a great amount of saliva to dilute and wash away the offending substance. In this case it becomes lost. It may be an interesting fact to some of our readers to know that so great is the demand for saliva in the mouths of tobaccochewers, that Nature has to provide for this increase by enlarging the parotid gland. Surgeons, when dissecting this gland in tobaccochewers, have often noticed this to be the case. If the tobacco did any good, there would be no harm in this; but as it does not, the harm comes from wasting our forces unnecessarily. Persons who have more force than they know what to do with may not be much harmed by this waste; but this number is few. Most of us have none too much strength, even when all of it is saved for best uses, and so the folly of habits such as that of using tobacco wastes our strength, and is so filthy that it ought to condemn itself if it produced no physiological injury.

COUNTER-IRRITATION.—A correspondent asks us "What is counter-irritation?" . We reply that it consists in irritating one part of the body to relieve another part. Dr. Anstie, the learned Editor of The Practitioner, says it is founded on the metaphysical idea that what hurts one tissue or organ must benefit another. He is of the opinion that this method when administered by blisters, causes an immense amount of suffering without benefit. Dr. Dickinson and Dr. Dauvergne have both written powerful arguments against the use of counter-irritants in the form of blisters. Dr. Anstie says: "I can speak from having personally endured the pain and inconvenience of a blister

for a week, and no patient, much less delicate women and children, should be subjected to it without the best of reasons." The practice is a relic of barbarism which gained importance before the days of a more correct knowledge of physiology, and is happily dying out. We freely advise parents not to submit to having their children tormented with blisters. There are many ether methods of producing the effects sought without suffering. Methods that produce comfort, not pain; ease, not suffering; happiness, not misery. As a general rule, except in surgical cases, we may rest assured that those remedies which produce great pain and suffering are not good ones.

FASTING FORTY DAYS .- A young man named John French, of Hagerstown, Md., under a state of religious fanaticism, recently abstained from food forty days. The result was such prostration that, with the best of care, he died in two weeks. He was said to be a young man of promise, but was led to this course by his peculiar religious views. It is doubtful if he would have lived nearly so long had he not drank freely of water during the time. If there is no error in the statement, this experiment shows the power of endurance with which our bodies are endowed. It is, however, sad to see intelligent persons led into such unnatural extremes. Fasting may be useful in some conditions of the body, but it is probable that it had greater significance in former times, when the habits of people were more gross and little attention was paid to cleanliness. Persons most likely to be injured by severe and prolonged fasting are those with susceptible nervous systems, great activity, and deficient digestive power. Plethoric, inactive persons may often abstain from food for a considerable time without harm.

THE ANTI-VACCINATION MOVEMENT IN ENGLAND.—The movement in England against compulsory vaccination is growing so strong that the magistrates find it very embarrassing. People are brought up by dozens for refusing

to have their children vaccinated. Some pay fine after fine, some go to prison. Even women have been imprisoned for refusing to allow the poison of a contagious disease to mingle with the blood of their babes. Numerous cases are related of children maimed, permanently diseased, or killed, by the introduction of this contagious matter. It is not that they fear what is called the kine-pox; it is other contagion so widespread in this country, so liable, many believe, to be propagated by innoculation. Vaccine, also, seems to have lost its virtues. Small-pox rages in spite of it, as of late in Paris. The magistrates pho, pho; some scold; all inflict greater or less penalties. But the feeling is growing very strong that Parliament has no right to prescribe the medicine a man shall take, or the surgical operation he shall submit to or have inflicted upon his children. If children are really murdered by vaccination-murdered by act of Parliament, and poisoned to death by Government officers, and parents must submit to it under pain of fines and imprisonment in this free country, one would like to know what they call a despotism. Professor Newman is lending his influence against the law.

We have one word of advice for not only English but American people. Instead of trying to root out small-pox by poisoning children with vaccine matter, root it out by cleaning some of the filth, by inforcing wise hygienic laws, by disinfection, whitewashing, and cleanliness.

SOMETHING NEW FOR FAIRS.—A subscriber sends the following, and wishes to know what we think of it:

"A St. Louis doctor proposed, at a recent meeting of the Farmers' Club of that city, to introduce 'agricultural prise-fights' into fairs to draw the crowd. He thought they were as justifiable as horse-racing; and also dwelt on the benefits of training for the ring, chief of which was the insight it gave of what a man should eat and how he should live to thoroughly develop his physical system."

Comment is hardly necessary.

WAR AND CRIME.—Judge Barnard, in charging the Grand Jury in this city recently, said: "I presume that from this time onward this court will have to be almost in continuous session, until such time as this generation shall have passed away; so that the vast majority of men now engaged in the commission of crime shall be incarcerated, run away, or dead. History tells us that after every great war it requires a generation to remove the bad men that have grown bad as camp-followers, swindlers, and robbers."

WHAT THE LAW CAN AND CAN NOT DO FOR TEMPERANCE.—In his letter accepting the nomination for the office of Governor of Massachusetts, Wendell Phillips says:

"No one supposes that law can make a man temperate. Occasionally some sot betrays the average level of liquor intelligence by fancying that to be our belief and plan. Temperance men, on the contrary, have always known and argued that we must trust to argument, example, social influence, and religious principle, to make men temperate. But the law can shut up those bars and dram-shops which facilitate and feed intemperance, which double our taxes, make our streets unsafe for men of feeble resolution, treble the peril to property and life, and make the masses fools in the hands of designing men, to undermine and cripple law. The use of intoxicating liquors rests with each man's decision. But the trade in them comes clearly within the control of law. Many considerations, and among them the safety and success of republican institutions, bid us put forth the full power of the law to shut up the dram-shops. We have never yet ruled a great city on the principles of self-government. Republican institutions, undermined by intemperance—we are obliged to confess they have never governed a great city here on the basis of universal suffrage in such a way as to preserve order, protect life, and secure free speech. New York, ruled by drunkards, is proof of the despotism of the dram-shop. Men whom murderers serve, that they may escape and because they have escaped, rule that city. The ribald crew which holds them up could neither stifle its own conscience nor rally its retinue but for the help of the grog-shop. A like testimony comes from the history of our other great cities. State laws are defied in their streets, and by means of the dram-shop and the gilded saloons of fashionable hotels their ballot-box is in the hands of the criminal classes—of men who avowedly and systematically defy the laws. Indeed, this is the case in Boston."

A WINTER IN FLORIDA.—We have just published a Fourth Edition of "A Winter in Florida," which was in such great demand last winter. It has been enlarged and such changes made as bring it down to the latest date. It is not only a complete guide to the invalid, sportsman, and tourist visiting Florida, but gives a history of the State and full information regarding its agricultural and horticultural productions, prices of lands, and the best places to settle. It is handsomely illustrated. Price \$1 50, by mail.

EGYPT.—We have received a letter from our young friend Avery Gallup, who has been abroad over a year for his health. He spent three months in Egypt, where he found great relief and probably cure from bronchial troubles. Of this part of his journey he says: "Had I known the hardships I should have to endure, I should never have undertaken it; but it has done my lungs more good than all the rest of my journey." He promises us an account of this health trip for The Herald of Heralth.

LITERATURE AND SUCCESS.—A New York publisher recently stated that not more than one in five hundred of the novels published ever reach a sale of two thousand copies. This would hardly remunerate the publisher, to say nothing of the author. Comparatively few persons ever succeed as authors, and those who do not succeed waste a great deal of strength, lose much precious time, suffer untold mental

agony, and in many cases materially injure their health. Those who would succeed by literature must have something to say that the world needs to hear, and they must be able to say it in such a manner that the world will eagerly listen; otherwise their chances are poor indeed.

STATISTICS OF HYDROPHOBIA.—The statistics regarding hydrophobia, which have recently been collected by M. Bouley for the Academy of Sciences, present a few interesting figures which our readers will be glad to read. M. Bouley had the history of 320 persons bitten by rabid animals. Of these 320 cases, 129 had symptoms of hydrophobia, all of whom died. In 123 cases no such symptoms followed. There were 68 cases not reported.

More young persons between the ages of five and fifteen are bitten than of other ages, and it is interesting to know that at this age the bites are less frequently followed by the disease. There are more cases recorded of bites in April, May, and June, than other months, but the difference is trifling.

The length of time before symptoms appear varies considerably. Of 109 cases, 76 had symptoms in less than 60 days. In the 33 other cases, it varied from 60 to 240 days. The symptoms appear in persons from three to twenty years of age in 44 days, while in those older they average 76 days. The duration of the disease in 74 out of 90 cases was less than four days, and in a majority of cases terminated in two or three days.

The location of the wound influences the danger in a remarkable degree. Of 32 cases where the face was bitten 29 died. Of 73 cases where the hand was bitten 46 died. Of .28 cases where the arm was bitten only 8 died. In 24 cases where the leg was bitten only 7 died. And of 19 cases where the trunk was bitten 12 died. Of preventive measures, cauterizing has proved most serviceable, as in 184 cases where the bites were cauterized, 98 were followed by no bad symptoms, while of 66 bites which were not cauterized, death followed in 56 cases. It

will be well to remember this fact, as death may often be prevented by its use.

GOOD NEWS FOR WOMEN. - To the Editor of Herald of Health. - In the September HERALD you hope some bright inventor will try to invent a cheap electrical engine to run sewing machines. A bright inventor of this city has done the very thing, for which a patent was issued last March, and since in England. A company of wealthy capitalists has been, or is to be, incorporated to make them. They are called Electro-Magnetic Sewing Machines. The battery is a horse-shoe magnet. First one pole moves the arm up, the connection is cut off; then the other pole moves the arm down and is cut off. It is extremely simple; any child can use it; no machinery; simply, you move a little knob, the connection is made, and the arm moves up and down. You can stand and sew. if you like, as one stands at a desk and writes. I see no reason why it should not, ere long. supplant all other machines. It is an inestimable boon to women, and, of course, to men also. J. H. SWAIN.

SAN FRANCISCO, Cal., Sept. 7, 1870.

THE TENDER MERCIES OF ROME.—Rev. Mr. Van Meter, Superintendent of the Howard Mission, in this city, has recently been in Rome, and, speaking of the public institutions there, he says:

"One of the most tender, loving charities I visited anywhere was the Foundling Hospital in Rome, in charge of the Sisters of Charity. The institution had over four thousand children under its care when I visited it, and on an average it contains about one-fourth of all the children born in Rome, as I ascertained from the book-keeper of the institution."

We should like to know why children are at such a discount in Rome that the parents cast them upon tender charity, rather than care for them at home. Can not the infallible Pope look after these parents more sharply, and induce them to do their duty to these little children?

How to Treat the Sick.

TREATMENT OF HOARSENESS AND VOICE-LESSNESS .- There are cases of purely nervous or functional, or, as they are sometimes called, hysterical aphonia. The voice may be reduced to a whisper, and even that is sometimes inaudible. On looking into the larynx we see no evidence of structural change, but when the patient attempts to vocalize we find that the vocal cords remain motionless, or that they move very little. This nervous aphonia often comεs on suddenly, and it often passes away as suddenly as it came. The best treatment for it consists in the application of electricity directly to the larynx. The shock excites spasm and a scream, and the cure is sometimes very rapid. I have cured several of these cases at a single sitting, and one by a single shock of electricity.

A boy, about twelve years of age, was much frightened, and nearly drowned, by falling into a pond. From that time he completely lost his voice, his intellect being unimpaired. When I saw him he had not uttered an audible sound for two years. I saw that his larynx was healthy, and I determined to apply electricity. The first shock elicited a loud scream, and at once he recovered his speech.

In most cases it is necessary to apply the electricity again and again before the cure is complete, and in some cases the treatment is unsuccessful, but these are comparatively rare. When the general health is impaired, treatment should be directed to remedy this while the electricity is being employed.

It is remarkable, but quite intelligible, that when, from any cause—a growth upon one of the vocal cords or inaction of the muscles—the glottis remains partly open during vocalization, the air escapes so rapidly during the expiratory act of speaking, that the patient is often compelled to draw in a fresh breath before he comes to the end of a sentence. In consequence of the patulous state of the glottis there is a rapid

escape and waste of air, and the chest is soon emptied.

There is a form of aphonia or weakness of voice which I look upon as the result of muscular fatigue and weakness. I have seen a considerable number of these cases, and most of the patients have been clergymen. The patient begins to speak in a clear and loud voice, and he continues to do so for a variable time; but after speaking or reading aloud for, it may be, a quarter or half an hour, the voice becomes feeble, and it may soon be reduced to a whisper. At the same time there is a feeling of fatigue, and sometimes positive pain in the throat With these symptoms we may find, on looking into the larynx, no trace of structural change, or only slight congestion and redness without swelling. A common cause of this form of dysphonia is overwork of the larynx, from frequent preaching and reading in large churches. I have known it to result from over-exercise of the voice in singing, from the straining of the voice by the habit of loud talking in the midst of poisy machinery, and from violent efforts in giving the word of command.

In some instances this peculiar form of laryngeal weakness has followed upon an inflammatory attack. It seems probable that inflammation may sometimes extend from the nuccus membrane to the muscular structures beneath, and thus the nutrition and the tone of the muscles may be impaired. This is the more likely to happen if the larynx be much exercised in speaking or singing during an attack of catarrhal inflammation.

'The best treatment for these cases consists in rest for the larynx as the organ of speech, change of air and scene, and a general tonic regimen.—Geo. Johnson, M.D.

CONVULSIONS AND FITS IN CHILDREN.

--When children have convulsive fits their pa-

rents should not be frightened out of their wits, as there is usually less danger than there seems to be. If it is caused by the presence of undigested and improper food in the alimentary canal, give a copious warm-water enema to move the bowels, and warm compresses over the stomach and abdomen, and in a majority of cases they will soon recover. When children are well fed they rarely have fits.

CHOLERA INFANTUM. - Dr. Yandell tells us, in The Practitioner, that cholera infantum is on the decline in America. We notice that seventy-five children died of it, in ten of the towns of Massachusetts, during the week ending September 3, 1870. So we hope it will keep on declining. He also remarks that twenty-five years ago he treated this disease with large quantities of calomel, which he now-to use mild language—thinks superfluous. He has found that water is to be ranked among the cardinal remedies in this disease, and, when fever is present, the external use of water (tepid) is of the greatest advantage. Water should be given often, and always before being put to the breast. In reference to diet, he remarks: "The aim of the practitioner is to sustain his patient, not so much by stimulants and tonics as by food. In food, as in drink, I can not help believing the instincts of the animal body, more especially when it is laboring under disease, are more trustworthy guides than our science concerning diet."

THE GERM THEORY IN DISEASE.—There can be no reason for doubting that among insects contagious and infectious diseases of great malignity are caused by minute organisms which are produced by preëxisting germs or by homogenesis; and there is no reason that I know of for believing that what happens in insects may not take place in the highest animals. Indeed, there is already strong evidence that some diseases of an extremely malignant and fatal character to which man is subject, are as much the work of minute organisms as is the pebrine in silkworms. I refer for this evidence

to the very striking facts adduced by Prof. Lister in his various well-known publications on the antiseptic method of treatment. It seems to me impossible to rise from the perusal of those publications without a strong conviction that the lamentable mortality which so frequently dogs the fcosteps of the most skillful operator, and those deadly consequences of wounds and injuries which seem to haunt the very walls of great hospitals, and are even now destroying more men than die of bullet or bayonet, are due to the importation of minute organisms into wounds, and their increase and multiplication; and that the surgeon who saves most lives will be he who best works out the practical consequences of the hypothesis of Redi.-Huxley.

TREATMENT OF RHEUMATISM BY ELECTRICITY.—M. Cheron, who has been experimenting in the use of electricity in chronic rheumatism, reports: 1. That the swellings of the joints caused by rheumatism may be considerably diminished by the constant current. 2. That the pain may be greatly abated by a few applications. 3. That stiffness of the joint can be prevented. 4. That sometimes a complete cure may be effected.

DUMBNESS CURED BY ELECTRICITY.—
M. Jabiot reports the case of a girl of seventeen
years who suddenly lost her power to speak, and
for twenty-eight months she was dumb. The
application of electricity lasted twenty-one
days, and resulted in a perfect cure.

Poisoned with Stramonium.—Several children in Brooklyn were recently poisoned by cooking and eating in play the seeds of that miserable plant called stinkweed or stramonium, often found growing on vacant lots about all cities and large towns. Would it not be well for the city fathers to destroy these weeds as a part of the sanitary regulations? Children, in their innocence, often violate the laws of health in spite of all our precautions, and we should, whenever possible, place them beyond the reach of whatever evil we can.

ANSWERS TO CORRESPONDENTS.

BY A. L. WOOD, M. D.

Two Meals a Day.—"'Two Meals a Day,' say you on the 91st page of the August number. When should they be taken? I. e., What are the most favorable hours to eat, when but two meals are taken? I have long deemed the two-meal-a-day hypothesis, or theory, if such it has become, worthy of consideration by dietarians. Have you any facts and observations of sufficient time and importance to warrant conclusions? The subject is certainly of the first importance, both physiologically and economically, and should, therefore, be duly pondered by all."

In adopting the two-meal-a-day system, a person must be governed somewhat by circumstances in the choice of hours. meals should not be less than six hours apart. and eight hours would be better. The first meal should not be taken less than an hour after rising, and the second meal less than six hours before retiring. As a rule, it requires about six hours to complete the processes of digesting and assimilating an ordinary meal. No meal should be taken until the previous one has been entirely digested and assimilated, and the digestive organs have had time to rest and recuperate. The digestive and assimilative processes should be entirely completed before retiring at night. If a person could rise at 5, take a moderate breakfast at 7, do the hardest part of his day's work before 2, eat dinner at 3, and retire at 9 o'clock, it would probably be as good an arrangement as could be made; but there are so many and so varying circumstances by which people are controlled, that no strict rule can be laid down for all. Each one must do the best he can under the circumstances in which he is placed. Whatever hours may be chosen, they should be the same every day. Regularity is of more importance than frequency.

The importance of this subject can scarcely be over-estimated. To say nothing about the immense gain in the health and comfort of the people which would result from the adoption of the two-meal-a-day system, look at the saving in time and labor and expense in the

preparation of the third meal. To the thousands of over-worked women this would make all the difference between a healthful amount of daily toil, plenty of time for recreation, mental improvement and social enjoyment, and a constant, wearing round of work from morning till night, with no time for rest, recreation, or the happiness of social life.

There are thousands of persons scattered throughout the country who have adepted this system, and who can testify to its bighly beneficial effects upon their health. are many large health institutions where the boarders and patients eat but twice a day. I have not only practiced this system myself with great benefit to my health during the past fourteen years, but have prescribed it for thousands of patients and others, and almost invariably with good results. Let any candid person give the system a thorough trial under favorable circumstances, and there are at least nine chances out of ten that he will be convinced he can do more work, either physical or mental, with less fatigue and wear and tear of the system, and that he can sleep better, and feel better, and be better.

Hygienic Treatment not Painfal but Agreeable.—" Please inform me whether or not the Hygienic system of treatment is a disagreeable and painful one to the patient? The prevailing idea here seems to be, although no one knows any thing about it by experience, that the Turkish Baths are a terrible ordeal to go through with, that the Movement-cure is a painful and disagreeable operation, and the Electric Baths are 'shocking' affairs."

The Hygienic system of treatment, as given at this institution, and as it should always be given, is not only not painful or disagreeable, but is pleasant and agreeable to the patient. As a rule, all treatment given to the sick should be such as to be looked forward to with pleasure, not with dread, by the patient. The drug system with its nauseous draughts, pills, and powders; its blisterings, leechings, scarifi-

cations, etc., is certainly a most unpleasant and barbarous mode of treatment, and for this reason, if for no other, should be supplanted by some mode more humane. A Society for the Prevention of Cruelty to Human Beings should be organized to help to do away with this barbarous practice.

Many people have received a false idea in regard to the Turkish Bath, from reading the exaggerated accounts of Eastern travelers, as well as the sensational stories written by sensational reporters for the sensational papers of the day. Again, some of the so-called Turkish Baths are not Turkish Baths at all, and many also confound the Russian with the Turkish Bath, whereas they are entirely different. The Turkish Bath, properly given, is by far the pleasantest of all baths, and is one of the greatest harmless luxuries in the world. Thousands of persons take them merely as a luxury, which is sufficient proof that they are not the terrible things they have been represented to be. The Movement-cure is not a painful operation, but is pleasant, soothing, and agreeable to the patient. The Electric Baths, while they arouse dormant organs to action, do not "shock" the patient, but quiet the nervous system and relieve pain. The same principle holds good in regard to the other agencies employed in the Hygienic system, as well as those just mentioned.

Hemorrhage from the Throat and Lungs.—"Please inform me what are the causes of and true mode of treatment of hemorrhage of the throat or lungs? Under what circumstances is it particularly dangerous or otherwise?"

Hemorrhage, except as it occurs as the result of accident, excitement, sudden congestion, etc., is owing to an impure and depraved condition of the blood, or a flabby and relaxed state of the tissues and the coats of the blood-vessels, or to both combined. Hemorrhage is always to be feared when it occurs as a result of the last-mentioned conditions. In these cases the blood must be purified and the tissues of the body strengthened and invigorated. To this end the patient should lead an out-of-door life with plenty of active exercise, take a daily towel bath with thorough friction of the skin, and, whenever practicable, a sun bath, and take absolutely nothing into the stomach ex-

cept the plainest and purest food, and pure soft water. Well-ripened fruits and graham bread, and other simple preparations of the different grains, should constitute the diet, or at least the main part of it. To relieve an attack of hemorrhage of the throat or lungs, keep the patient perfectly quiet, give him pieces of ice to swallow, put ice-cold cloths upon the throat or over the lungs, as the case may be, and put the hands and feet in water as hot as can be borne.

Hints to Night-Watchers.-A person who is sick enough to need night-watchers needs rest, and quiet, and all the undisturbed repose he can get. If one or more persons are in the room reading, talking, or whispering, as is often the case, this is impossible. There should be no light burning in the room unless it be a very dim one, so placed as to be out of sight of the patient. Kerosene oil should never be used in the sick room. The attendant should quietly sit or lie in the same room, or, what is usually better, in an adjoining room, so as to be within call if any thing is wanted. In extreme cases, the attendant can frequently step quietly to the bedside to see if the patient is doing well, but all noise and light should be carefully excluded. It is a common practice to waken patients occasionally for fear they will sleep too soundly. This should never be done. Sleep is one of the greatest needs of the sick, and there is no danger of their getting too much of it. evacuations should be removed at once, and the air in the room kept pure and sweet by thorough ventilation.

Positive or Negative.—"Will you be kind enough to inform me whether the negative or positive pole of an electric machine should be applied to the person for the cure of nervous disorders?"

My experience has been, and it is the experience of most practical electricians with whom I have conversed upon the subject, that in the use of electricity it makes very little difference in the effect whether the positive or negative pole is applied. I regard all the talk about the different currents and counter-currents, etc., as merely efforts to make a very simple thing appear mysterious and complicated. I think the best general rule is to apply the pole which feels most agreeable to the patient. It will sometimes be one, and sometimes the other.

NOTICES OF NEW PUBLICATIONS.

BOOKS FOR THE YOUNG. Published by Lee & Shepard, Boston, Mass.

The Proverb Series, consisting of "A Wrong Confessed is Half Redressed," "One Good Turn Deserves Another," and "Actions Speak Louder than Words," "The Boys of Grand Pre School," "The Pinks and Blues," by Rosa Abbott; "Charley and Eva Roberts; or, Home in the West;" "The Little Maid of Oxbow," by May Mannering.

We have read all the above-named stories with great care and attention, and with much respect for a publishing house evidently bent on supplying a much-needed element in the very important branch of literature to which they have devoted themselves. We have before spoken of the admirable series entitled, "Elm Island," and written by the Rev. Mr Kellogg, a gentleman, a scholar, and a sympathetic writer, who penetrates the mysteries of boydom. The "Oliver Optio" series we have not seen, and hence can not express an opinion.

Of the books before us, we find throughout most radical defects. In the first place, there is not a particle of dignity in most of the authors themselves, and they naturally lower the tone of thought and expression for their readers. They do not even write under an honest Christian name, but instead we have May Mannering, Kate Neeley. etc. Now it may be well enough to use these abbreviations in the home familiar circle, but it seems an unwarrantable familiarity when a pet name is made public and given into the hands of strangers.

In the second place, there is a maudlin sort of baby talk that is neither interesting to old or young. We have interminable pet names—Fan, Lissie, Nell, Bl, Charley, Bob, etc., ad nauseum. There may have been some excuse in these olden times, when a child received at its baptism the formidable name of "Through-much-tribulation-we-enter-into-the-kingdom-of-heaven," in calling him "Tribby" for shortness; but we firmly believe that much of the present lack of manly and womanly dignity in the country may he traced to the prevalence of literary and family slip-slop in the way of mawkish sentiment and fulsome tenderness in the mode of designating the children of a household; but it is harmless there compared with its effects in giving impressions to a reading

We admit that literature for the young is very difficult to obtain; still it can be procured, and should be well paid for. "Truth is stranger than fiction" is often asserted. Such being the case, why confine the child to the dreary commonplace? These Boston publishers have lost themselves in a groove from which it will be difficult to emancipate themselves. Their writers are either hackneyed or incompetent-utterly devoid of imagination, pathos, or invention; they flounder on through seas of platitudes and deserts of utilitarianism, till the child feels as if every day in life must be dull and plodding, or one long, miserable working-day. Away with so much cant. Let us see what a child does like. He may not understand the whole of the beautiful allegory of Bunyan's "Pilgrim's Progress," but he will understand enough to read it with delight. Can there never be another "Robinson Crusoe," with its island of adventures, its one footprint upon the sand, and its countless endeavors, and its manifold expedients? Where are the "Thousand and One Tales of the Arabian Nights," which gave us a living picture of existing Bagdad, and Arabian habits, and tricks, and resources?

Children must have something to stimulate the fancy and provoke intelligence. Nursery talk, and robbing orchards, and going upon pic-nics will not do. We know a child, scarcely eight years old, who was eager for every number of "The Two Wives," as it appeared in THE HER-ALD OF HEALTH. We cut our own eye-teeth upon "The Sorrows of Werter," "Joseph Andrews," "The Virtuous Pamela," and "Children of the Abbey"-to say nothing of "Gil Blas" and "Tom Jones." Scarcely milk for babes, we admit, but never the idea of any indecency, or evil in any shape, ever entered into our innocent brain er undeveloped understanding. Lilies will be pure even in slimy waters, and children do not understand half they read (nor, as to that, do we grown folks); if they did they would not care to read at all. It is the mystery, the expectation of coming out all .right, the play of fancy, with now and then a thrill of alarm, that keeps them esger upon the page. Good may be so indirectly done that they take the condiment unawares, just as every robin is sacred to every boy who has read the story of the " Babes in the Wood." Let us have meat a little stronger, Mesers. Publishers, even for the youngsters, for boys and girls have good, strong digestion, and our humanity is not only wholesome at the core, but is highly conservative, also.

"The Boys of Grand Pre School" comprises a touch of history—the removal of the Acadians—which gives an interest to the work. But why say, "A strong-willed Governor determined," etc.? Why not out with the honest truth, and say, Governor Winthrop of Massachusetts did it? Concealment or evasion must not do with straightforward boys and girls, and the present homorable representative of the Winthrops had no worse ancestor than all of us had whose progenitors acted up to the light of their age, and these bld barbarisms did no worse than what transpired in our own civil war, and what is going on in Europe now. There is not much of a story to "The Boys of Grand Pre School," but they are not without well-bred training, which is much in this brusque era.

We do not much approve "The Pinks and Blues," overrun with diminutives, holdenish girls, and "rowdy" phrases. What is worse, "Di" is entirely unnatural in character. God be praised, there are no girls at twelve years so precocuously bad as to steal miniatures with the avowed purpose of securing an estate. We should hesitate before we would put the story into the hands of any child.

"The Little Mald of Oxbow" has many fine points, though unequal as a whole. There is now and then a description of scenery quite refreshing, and "Mahel" is a clearly-drawn character, and "Aunt Mehitable" better will

"A Home in the West" recommends itself as a clever story, showing how all may get on in life with honest endeavor, and honest willingness to work either the brain or the hands. There are some mild hits at the "Woman Movement;" but, what is worthy of praise, it gives a testimony in favor of courteous manners, refinement of speech, and personal elegance.

"A Wrong Confessed is Half Redressed" might have been all the better written in ten pages than in two hundred and fifty; but it deserves praise as showing that when a boy robs an orchard, etc., he is nothing more nor ess than a thief for the time being.

"One Good Turn Descrives Another" is a series of nice ititle sketches such as usually appear in a child's paper. "Actions Speak Louder than Words" is a really well-rritten, life-like delineation of domestic life and manners hat reminds us of one of Miss Edgeworth's stories. 'Ruth" is the model girl, and is well sustained through-ut; and poor, faded-out "Mrs. Lorrimer," with her ten hildren, is too briefly dismissed. The author has now ind then a touch worthy of Dickens.

One word more in regard to these stories for the young. We do not believe the impression is good upon the undereloped mind in having the negro introduced as a ridicuous feature in a story. No work, even of higher pretensions, escapes the inevitable darkie, with his inevitable "yah, yah!" Now, if our people recognize his equality, why not make a hero of him, instead of holding him up to contempt. "Actions speak louder than words" here as elsewhere.

THE PRINCES OF ART: PAINTERS, SCULPTORS, AND ENGRAVERS. Translated from the French by Mrs. S. R. Urbino. Boston: Lee & Shepard. 1870.

This book contains very interestingly-written biographies of thirty-two of the most renowned architects,

painters, sculptors, and engravers of ancient times, and the portraits of Michael Angelo, Leonardo Da Vinci, Canova, Raphael, Poussin, Rubens, Callot, Van Dyck, and Murillo, together with an introductory article giving a history of the rise and progress of the fine arts.

LETTER AND SPIRIT: WINCHESTER LEGIURES.

—By Richard Metcalf. Boston: American Unitarian Association. 1870.

This book is written with a concise pen and earnest spirit; affectionate and simple, it will be found a valuable text book for those who may be seeking light upon theological subjects, and for those who may be desirous to give a reason for the faith that is in them.

BEAR AND FORBEAR; or, the Young Skipper of Lake Neaygu.—By Oliver Optic. Boston: Lee & Shepard. New York: Lee, Shepard & Dillingham.

THE HARD SCRABBLE OF ELM ISLAND.—By Rev. Elijah Kellogg. Boston: Lee & Shepard.

TALKS TO MY PATIENTS. By Mrs. Gleason.

This book is like the familiar conversation of some wise experienced friend, who has gathered young girls, young wives, and young mothers to her side, and is telling them all about the grave mystery of their organisation and how to care for themselves.—Elmira Advertiser.

THE PUBLISHERS' DEPARTMENT.

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THE EDITOR.

The New Premium List for 1871. We most cordially invite the attention of our readers to the splendid Premium List for 1871. If our friends can not be induced by these elegant presents to lend their influence and energy in extending the grand and momentous principles of reform that THE HERALD OF HEALTH inculcates, then they must lack incitement to push on that knowledge which prevents disease, encourages physical perfection, and makes man worthy of his heaven-born estate. Let our friends help on the great work of perfect

naing our subscription lists, and we will give them a magasine of many times more value to them than the money they pay for it.

The Love of Art has been more fully developed since the recent introduction of Chromos into this country, than for years before; and next to the one who introduced them, he who places these refined educators wi in the reach of persons of limited means, cer-

ainly deserves much credit. There can no longer be any excuse for any one being without at least one fine Chromo, since they are fairly "given away" to all yearly subscribers to either Demorest's Monthly, or to the juvenile magasine, Young America.

The one before us is a "perfect gem" in its way—exquisite in design, coloring, and shading, and can hardly be distinguished from the original oil painting which sold for \$500. In addition to the pleasure imparted by the possession of such a prise, is the satisfaction of feeling that you have really the worth of your money in either of the above magazines, exclusive of the premium.

A. Good Sewing Machine is given free for a club of 30 subscribers and \$60. This premium is very popular. If there is a poor, deserving family in your neighborhood help it to get a good sewing machine by subscribing at once. Perhaps your minister's wife wants one. If so, help her to get it, by helping her to get up a club. The Empire is one of the best sewing machines in use, and we are sure that it will give you good satisfaction.

Clubs of Twenty-five.—Any person who will send us at one time twenty-five new subscribers to this monthly, shall have them for Twenty-five Dollars. Remember they must be new subscribers, and all be sent at one time.

Notices of the Press.—We call special attention to the notices of Mrs. Gleason's book which we have received from persons who have read it, and from the newspeper and magasine press. It is rarely that a work of this character has been so well received.

Facts for the Ladies.—I have a wheeler & Wilson Machine (No. 289), bought of Mr. Gardner in 1853, he having used it a year. I have used it constantly in shirt manufacturing, as well as family sowing, sixteen years, My wife ran it four years, and earned between \$700 and \$800, besides doing her housework. I have never expended fifty cents on it for repairs. It is to-day in the best of order, stitching fine linen bosoms nicely. I started manufacturing shirts with this machine and now have over one hundred of them in use. I have paid at least \$3,000 for the stitching done by this old machine, and it will do as much now as any machine I have.

Berlin, N. Y. W. F. TAYLOR.

Notice to Our Correspondents.—
The following hints to correspondents should be observed in writing to us:

- Always attach name, Post Office, County, and State to your letter.
- Sand Money by Check on New York, or by Postoffice Money Order. If this is impossible, inclose Bills and register Letter.
- CANADA AND NEW YORK CITY SUBSCRIPTES should send 12 cents extra, with which to prepay postage on subscriptions to THE HERALD OF HEALTH.
- REMEMBER, if you are entitled to a Premium, to order it when you send the Club, and inform us how it is to be sent.
- REMEMBER THAT WE NOW GIVE the Empire Sewing Machine as a premium. It is guaranteed to give good satisfaction.
- 6. REMEMBER TO SEND in Clubs early.
- REMEMBER TO LOOK at our Premium List and Book List, and see exactly what we give and have for sale.
- Remember that for the names and addresses of 25
 persons, either invalids or friends of Temperance and
 Health Reform, we give Prof. Wilson's book on the
 Turkish Bath. It contains 72 pages.
- 9. STAMPS should be sent to prepay postage on letters that require an answer.
- 10 Those who want a good Spirometer, Parlor Gymnasium, or Filter for making their water clean, will find the press in another column.
- Invalue from all parts of the country are invited to write to us for our circular, and full particulars as to Treatment or Board in the Hygienic Institution, See advertisement elsewhere.
- 12. See List of Books elsewhere.

How to Send Money.—In making remittances for subscriptions, always procure a draft on New York, or a Postofics Money Order, if possible. Where neither of these can be procured, send the money, but in a Registered letter. The present registration system has been found by the postal authorities to be virtually an absolute protection against lowes by mail. All Postmasters are obliged to register letters whenever requested to do so.

Wanted.—Will our readers please send us brief items of news and experience referring to Health and Physical Culture topics. Make them pointed and practical, and we will publish them for the benefit of others. Do not mix them up with business or personal matters, but on separate sheets of paper and in readiness for the Printer.

Our Premiums.—We shall be careful to send out as Premiums nothing which is not all that we claim for it in value. No cheap, second-hand, or indifferent article will be used.

Winter in Florida.—The Fourth Edition of this valuable book has just been issued. Of it as exchange says:

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The Address Label.—By this method our subscribers can keep their own accounts as to when their terms of subscription close; for instance, if the printed siip has "De70," or "Je71" added to the name, it signifies that the subscriber's term of subscription expires with the December number of 1870, or the June number of 1871, and so on et seq.

Talks to My Patients.—Mrs. Gleason's book, advertised and noticed elsewhere, is meeting with a good sale. We can supply it to subscribers and agents in any quantity. A good many ladies are selling it with success. We should like to have in every town a good Lady Agent. For particulars of agency, write to the Publishers.

Books C. O. D.—Parties who order books will find it cheaper to send the money with the order, than to order C. O. D., as in this case the cost of collection will be added to the bill. This is considerable, when the money has to be returned from a distant point. Those who order C. O. D., should send one-fourth the value of the order in advance to insure prompt attention.

Caution.—Our friends in writing to us will please be very particular and give Postoffice, County and State with every letter, and not depend on us to remember where they live, though they may have told us a hundred times. Those who think we can turn to our books and find their names and address without trable, are quity mistaken.

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[NEW SERIES.

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A NEW DISCUSSION OF TEMPERANCE PROBLEMS:

COMPRISED IN A SERIES OF TWELVE ESSAYS CONTRIBUTED BY OUR BEST THINKERS AND WRITERS,

No. II.—EFFECTS OF ALCOHOLIC BEVERAGES ON THE BODY.

BY BOMUND A. PARKES, M. D.

SPIRITS AS AN ARTICLE OF DIET FOR HEALTHY PERSONS.

THREE sets of arguments have been used in discussing this question; from

- 1. The physiological action of alcohol;
- 2. The experience of its use or abuse;
- 3. Moral considerations.

To the last point I shall not further allude; for, though I do not underrate the great weight of the argument drawn from the misery which the use of alcohol produces—a misery so great that it may truly be said that, if alcohol were unknown, half the sin, and a large part of the poverty and unhappiness of the world would disappear. Yet this part of my subject is so obvious that I do not wish to occupy space with it. To my mind, however, the arguments which are strongest for total abstinence are drawn from this class. Nor does any one entertain a moment's doubt that the effect of intemperance in any alcoholic beverage is to cause premature old age, to produce or predispose to

numerous diseases, and to lessen the chance of living, very greatly *

THE PHYSIOLOGICAL ACTION OF ALCOHOL.

When taken into the stomach, alcohol is absorbed without alteration, or is, perhaps, in

*Neison, in his "Vital Statistics, says: "In intemperate persons the mortality between 21 and 30 years of age is five times that of the temperate. It becomes gradually less. A temperate person's chance of living is, at 20, 44 years; at 30, 36 years; at 40, 28 years; at 50, 21 years; at 60, 14 years; but an intemperate person's chance of living is, at 20, only 15 years; at 30, only 13 years; at 40, 11 years; at 59, 10 years; and at 60, only 8 years.

"All these deductions are drawn from the lives of 357 persons, a small number, it is true, but the facts are well authenticated.

"The average duration of life, after the commencement of habits of intemperance, is, among mechanics and laboring men, 18 years; among traders, dealers, and merchants, 17 years; among professional men and gentlemen, 15 years; among females, 14 years.

"Those who are intemperate on spirits have a greater mortality than those who are intemperate on beer, and those who are intemperate in both have a greater mortality than those intemperate on only spirits or beer." some small degree converted into acetic acid, possibly by the action of the mucus or secretions of the stomach. The rate of absorption is not known, and it has been supposed that when given in very large quantities it may not be at all. As far as I am aware, it has never been recovered from the fraces in any great amount. After absorption it passes into the blood, and then throughout the body; if the observations of Schulinus are correct, it is equally distributed, and does not accumulate, as was formerly supposed, in the liver and nervous tissues. It commences to pass out from the body speedily, as it may be detected in the breath soon after taken; it emerges chiefly by the lungs, partly by the skin, in smaller quantities by the kidneys, and slightly by the bowels.

Much debate has taken place as to whether all, or nearly all, the alcohol is thus eliminated, or whether any is destroyed in the body. The experiments of Dr. Percy, and subsequently those of Strauch, seemed at one time to have settled the question, and to have proved that alcohol is very little or not at all destroyed in the body. Since then the experiments of several physiologists have again altered the position; and though the evidence is incomplete, the opinion that alcohol disappears in the body is probably correct.

It is, however, probable that the power and the rate of destruction are moderate, and that alcohol soon begins to accumulate in the body; certainly it can sometimes be recovered from some fluids, as in the brain, even days after the last quantity has been taken. The question of its destruction, however interesting, is not the most important point. It is much more necessary to know what effects it has on the blood and various tissues.

On the Stomach.—Its effects on the stomach, if taken in any considerable quantity, are to check digestion, redden the mucous membrane, and produce a chronic catarrhal condition; to increase the connective tissue between the glands; to produce fatty and cystic degeneration of the contents of the glands, and, finally, mere or less atrophy and disappearance of these parts. Taken habitually in larger quantities, it lessess if it does not destroy appetite.

On the Liver.—The action of small quantities on the Liver is not known. Applied directly to the liver, by injection into the portal vein, it increases the amount of sugar (Harley). Taken daily in large quantities, it causes either enlargement of the organ, by producing albuminoid and fatty deposit, or it causes at once, or

following enlargement, increase of connective tissue, and finally contraction of Glisson's capsule, and atrophy of the portal canals and cells, by the pressure of a shrinking exudation.

On the Spleen.—On this organ the action of alcoholic drinks is not fully established.

On the Lungs.—It lessens the amount of carbonic acid in the expired air. This is probably true of all the alcoholic beverages, though there is some discrepancy of experiment with different kinds of spirits. In large quantities it also alters the molecular constitution of the lungs, as chronic bronchitis and lobular emphysema are certainly more common in those who take much alcohol.

On the Heart and Blood-vessels.—Alcohol usually at first increases the force, and sometimes the quickness, of the heart's action. Eventually, it would appear from observation, it tends to lower the heart's action, and partially paralyses the vas-motor nerves. In large quantities, habitually taken, it perhaps alters molesular constitution, and tends to the deposit of the formation of fat. It causes general turgessence, especially of the skin, apparently from a sort of paralyzing action on the nerve of the small arteries.

On the Blood.—The amount of fat is either increased or made more visible. The chemical changes in the blood are partially arrested.

On the Nervous System .- In most persons it acts as an ansesthetic, lessening the rapidity of impressions, the power of thought, and the perfection of the senses. In some cases it seems to cause increased rapidity of thought, and excites the imagination, but even here the power of control over a train of thought is lessened. In no case does it seem to increase accuracy of sight, nor is there any evidence that it quicken hearing, smell, taste, or touch; indeed, experiments show that it diminishes all the senses. Different spirits act differently on the nervous system, owing, probably, to the presence of Some produce great excitement, folethers. lowed by profound torpor and depression. Absinthe is especially hurtful, apparently from the presence of essential oils, as well as from the large amount of alcohol. The impairment of the special sense and muscular power, implies that it interferes with the movement of the nervous currents.

On the Muscular System.—Voluntary muscular power seems to be leasened, and this is most marked when a large quantity of alcohol is taken at once. The finer combined movements

are less perfectly made. In large doses it paralyzes either the respiratory muscles or the nerves supplying them, and death sometimes occurs from the impairment to respiration.

On the Change in Tissue.—This is lessened, as is evidenced by a diminution in the elimination of urea and carbonic acid. This indicates that less mechanical force is produced in the body, and less work is got from the human machine. Large quantities of alcohol tend to cause an accumulation in the system of imperfectly oxidised bodies, such as uric and oxalic acids.

On the Temperature of the Body.—Perrin found the temperature of the body rather less after meals with, than after meals without, wine. Drs. Sidney Ringer and Rickards have made an extensive series of observations on men and habits, which show that alcohol in large doses depresses the temperature remarkably. In smaller doses it also lowers it. These experiments are quite in accordance with the observations on the use of alcohol when persons are exposed to cold.

On the Eliminating Organs.—The action of the lungs and kidneys is lessened. The condition of the skin is not certain. Dr. Edward Smith thinks it is lessened. When taken in large quantities habitually, the minute structure of the kidneys suffers, the vessels and tubes become thickened, and there is rapid cell growth, followed by rapid atrophy and shrinking. Even moderate spirit-drinkers show very early an appearance of age, and this probably arises from the constant over-distension of the small vessels of the skin, and perhaps from some change in the texture of the skin itself.

It is impossible not to feel that, so far, the progress of physiological inquiry renders the propriety of the use of alcohol in health MORE AND MORE DOUBTFUL. It appears to decrease strength, and to impair nutrition by hindering oxidation, and, if in large quantities, the reception of food; while, if habitually taken in any large quantity, it leads to degeneration of the tissues of certain organs, especially of the liver, the nervous system, the lungs, heart, and kidneys. If we look upon the body as an agent of work, from which we wish to obtain as much mechanical and mental force as is compatible with health, we can consider the effect of alcohol, per se, as simply a means of preventing THIS DEVELOPMENT OF FORCE. In the case of beer and the weaker wines, experience most decidedly shows that the highest health, the greatest vigor, and long life, are quite compatible with entire absence from these liquids.

In the case of spirits, I believe it may be asserted that experience does not sanction their use.

EVIDENCE AGAINST THE USE OF SPIRITS UNDER DIFFERENT CIRCUMSTANCES.

Under Cold.—There is a singular unanimity of opinion on this point; all observers condemn the use of spirits, and even of wine and beer, as a preventive against cold. In the Arctic regions we have the evidence of Richardson, Mr. Goodsir, Dr. King, Captain Kennedy, Dr. Kaue, Dr. Hayes, and others. Dr. Hayes says that he will not only not use spirits, but will take no man who does. Dr. Hooker testifies to the same effect among whalers in the Autarctic regions. Ullos long ago noticed the same thing in ascending mountains. Dr. Carpenter says that the Russian army, when on the march in cold weather, not only use no spirits, but that no man is allowed to march who has lately taken any. The guides at Chamouni and the Oberland, when out in the winter, have invariably found spirits hurtful. The bathing men at Dieppe, who are much exposed to cold from long standing in the sea, also find that spirits are hurtful. The instances in which spirits are supposed to be useful are those in which hot water is taken with them, and the benefit is doubtless owing to the heat of the water.

Heat.—The common notion that some form of alcoholic beverage is necessary in tropical climates is, I firmly believe, a mischievous delusion. The records of the Eighty-fourth Indiana Regiment, in which I formerly served, numbered many tectotalers, and these records show that these tectotalers were more healthy, more vigorous, and far better soldiers than those who did not abstain. The experience of almost every hunter in India will be in accordance with this. Tropical climates are precisely the places where alcohol is most hurtful.

THE EXPOSURES AND EXERTIONS OF WAR.

The greatest fatigues, both in hot and cold climates, have been best borne by men who took no alcohol in any shape. Robert Jackson marched one hundred and eighteen miles in twenty-four hours, in Jamaics, carrying a load equal to a soldier's, and says: "The English soldier may be rendered capable of going through the severest service in the West Indies, and that temperance will be one of the best means of enabling him to perform his duty with safety and comfort." Even under circumstances when the use of spirits might be supposed to be useful, as when men are exposed to wet and cold, soldiers are better off without

alcohol. On this point no testimony can be stronger than that given by Sir John Hall. He says: "My own opinion is that neither spirit, wine, nor malt liquors are necessary to health. The healthiest army I ever served with had not a single drop of any of them; and although it was exposed to all the hardships of Kaffir warfare at the Cape of Good Hope, in wet and inclement weather, without tents or shelter of any kind, the sick-list seldom exceeded one per cent."

Dr. Mann says: "The Fourth Massachusetts Regiment, at that eventful period at which I was the surgeon, lost in three years by sickness not more than five or six men. This was during the Revolutionary War, when the army received no pay, and possessed not the means to procure spirits. The embarrassment was considered a national calamity, but it proved a blessing to the soldier. When he is found poor in money—it is always the case—he abounds in health, a fact worth recording."

Discipline, Temper, Cheerfulness, Endurance,—
It is a fact known to all that good discipline goes with temperance. The courage and endurance of a drunkard are always lessened, and in a degree far short of drunkenness; while temperance raises the boldness, cheerfulness, and spirit of the man. The experience of the late civil war abounds in instances of the effects of the use and disuse of spirits. A surgeon of the United States Army says: "The curse of an army is intoxicating liquors; the spirit-ration is the great source of mischief."

Giving Rations to Soldiers. - The custom of giving rations to soldiers, even now not altogether discontinued, was one of those incredible mistakes which are only made worse by the explanation that it was done to please the men, and to cover neglect in other ways. If any one wishes to see what the English army was in former days, and how military regulations made men drunkards in spite of themselves, I may refer them to an old Peninsular surgeon's (William Ferguson) notes and recollections (1846) from a professional life. "During the last war," he says, "our sailors and soldiers appeared to live only for the purpose of getting drunk. With them it seemed to be the chief article of their creed-the chief end of life. 'Grog, grog,' was still the cry. I have seen it, as it were, forced down the throats of the innocent negro boy and the uncorrupted young recruit. We seemed to believe that the term aqua vita was its true designation. Every one was to have it, no matter what the age, the

color, the country, or the breeding. At the battle of the Busaco, I saw a party of Portuguese Artillery, as soon as the rum-ration was served, as if they had been possessed by a devil, draw their swords and fight with one another, when actually under the fire of the enemy."

There is too much reason to fear hat many officers still believe that soldiers must have spirits. Ferguson says that "the exceeding vulgarity of the prejudice that ardent spirits impart strength and vigor to the frame is disgraceful to educated men." Although in the army drinking is the great source of all crime and insubordination; although, even within the last twelve years, we have had one, if not more, instances that, even during an assault. men will sacrifice any thing, even their honor, to obtain spirits; although the best officers know that this is one point on which they can not depend on their men, far too little has been done to make soldiers temperate. It is the same in civil life; there is no question that the moral as well as the physical evils proceeding from drink are beyond all recording, and yet the attempts made to secure a complete legislative consideration of the question are looked upon as the delusions of fanatics, and are opposed with a bitterness which could only be justified if the degradation, and not the improvement, of mankind, was desired. To see an Ecumenical Council assembled, composed of religious teachers from all parts of the world, to discuss and decide upon the infallibility of the Pope, while they neglect the world-wide evil of drunkenness and its accompanying crimes, is indeed to take "tithes of anise and cummin, and to neglect the weightier matters of the law."

CONCLUSION.

Looking back at the evidence, it may be asked: "If the question lies at any time between the use of spirits and total abstinence, which is best?"

To me there seems but one answer. If spirits neither give strength to the body, nor sustain it against disease—are not protection against cold and wet, and aggravate rather than mitigate the effects of heat; if their use, even in moderation, increases crime, injures self-control, and impairs hope and chestfulness; if the severest trials of life have not been merely borne, but most easily borne, without them; if there is no evidence that they are protection against malaria or other diseases, then I conceive that we are not justified in sanctional their use under any circumstances.

The Young and their Associates.

BY MRS. H. C. BIRDSALL.

LADY, who has seen a good deal of the world, has told me that one of the most valuable lessons of her life was taught her in a few sentences by her father. Upon the evening of her first appearance in society, he called her into his library, and said to her, in a very grave and decided manner: "I have a few words of advice to give you. You will see, this evening, a large collection of young people, and I want to warn you against two things in your intercourse with them-affectation and flirting. Be social and merry; enjoy yourself as much as you can; but remember throughout the whole evening that my eye is upon you, and if I detect the least sign of either of the faults I have mentioned, I shall take it as an indication that your character is not mature enough for the enjoyment of society, and shall forbid your seeing any more of it at present." This lady was by nature gay, and full of spirits and mischief, and says that her father's words alone saved her from being guilty of the miserable, lowering fault of flirting. They seemed to her at the time stern and harsh, for they were in contrast to her father's usual mild manner, but their good effect was very decided.

As children pass from the direct control of their parents into the independent state of manhood and womanhood, there should be no relaxation in the parents' efforts to make them high-toned. And in no particular is this more necessary than in regulating their habits of association with their young friends; for from this intercourse they may receive much harm, unless protected against it by a good suit of moral armor. It may have been a life-long effort of parents to teach their children sincerity, and yet they tacitly consent to the habit of affectation which they see growing upon their daughters as they begin to associate with other young people. They may know that their daughters mean well in general, that they have set a high standard of excellence before them for imitation, and they may think that so trifling an imperfection is not worth mindingthat it will all rub off. They should have learned by experience that whatever fault once sullies a character, although it may be wiped away, always leaves a stain, perceptible, at least, to the one affected. Affectation may ripen into insincerity of the worst kind, and both our sons and daughters should be taught to be what they seem, and to seem what they are. Flirting may be named one of the evil fruits of affectation; for what is it but the assumed appearance of special regard for one whom a person does not particularly like, or of dislike for a well-loved one, or both at the same time? It can not be too strictly guarded against by parents

We frequently hear a groaning among elderly people over the "good old times," and every thing pertaining to the present day is spoken of as much inferior to old-time things, and many a quiet laugh we enjoy, but without malice, at their expense. They lay the blame of so many girls being useless ornaments to society upon the fact that the piano has usurped the place of the spinning-wheel, not realizing that, in this time of improvements and laborating machines, the spinning-wheel is an impossibility, and also losing sight of the fact that the change in the spirit of parents and of the times, and not the piano, has done the mischief.

Our training of children would doubtless be the better for having something more of the old-fashioned element in it.

I think, for instance, that a family in which there are from two to four daughters should be able to carry on all the housework, with the assistance of the many labor-saving machines, and without the disagreeable appendage of a servant.

When a young lady's so-called education is completed, how often we see her sitting down to novels and embroidery for from six to ten years of her life. Censorious friends, out of hearing distance, blame her for her course of "laziness," and the fact is they are not blaming the right person at all. The young lady herself may have an earnest desire to be useful, but she sees no opening for her. Servants are in the kitchen; mother keeps the keys and superintends operations; daughter sits in the parlor, becoming more and more discontented while thinking of, and longing for, her "vocation!"

The labors of a household might easily be so divided among its daughters as to make them feel that they had, at least, a vocation, if not precisely the one most fitted to them, and plenty

of time reserved for recreation and the practice of the feminine accomplishments, which are so pretty and graceful in their proper places. In the old days it was thought part of a girl's duty to lay up for herself a stock of bedding and articles of household use; she took much pleasure in it, and it passed away much leisure time in a happy and useful way, which might otherwise have been spent in sighing for a vocation.

Now-a-days, young ladies taught to do this are looked upon as eccentric and in haste to get married. They are allowed to spend all their energies in trying to catch husbands by their airs and graces, and it is not noticed as unlady-like; but if they were to sit down, as in old times, to make sheets and quilt bedquilts, the finger of Madam Grundy would be immediately pointed at them.

The excuse often given for the change is, that every thing for household use can now be bought, ready made, just as cheaply as it can be prepared at home. I have known this reason to be given by mothers of daughters who were already engaged to be married, and who had nothing to look forward to as assistance in providing them with the articles necessary to housekeeping. And then I have known these young ladies, after passively waiting a number of years in the vain hope of seeing a good supply of bedding, furniture, etc., "drop down" or "turn up," married, their troussess using up all their parents' surplus means, and they, having not the wherewithal to buy the blankets, etc., for which they had fondly longed, obliged to commence boarding instead of having a house of their own.

How much better might their mothers have put aside all false notions, and encouraged their daughters to gather together and make needed articles from time to time, as the materials and opportunity offered. There is no reason why this course should not be pursued, for every thoughtful person knows that we can not buy any thing made by the needle or machine just as cheaply as we could make it ourselves, unless we have employed our time in something equally remunerative. We must pay for the time and labor expended upon them virtually twice over, if we count the years wasted by our daughters which might have been employed in this work. That there is just as much necessity for economy throughout our land as ever there was is

There seems to be no feeling of objection to

plainly indicated by the numerous books and

transient articles constantly appearing upon the

subject of living cheaply.

economy after marriage, but it is deemed a sin against conventionalities to show a need of it, or of even a preparation for it, previous to marriage.

The mother should teach her daughters economy, not only in the direction I have mentioned, but in all the departments of housekeeping, as being as important a duty as she has to perform.

In the labor of housekeeping, while sedulous in inculcating the spirit of thoroughness, the mother should avoid teaching that over-carefulness which exhausts itself upon the minute details of work, and renders a person really inefficient. If a girl is naturally slow and plodding, she should be taught definess, if possible. It is a quality which but few persons possess as a natural gift, but it may be cultivated indefinitely. It is not simply quickness, for that alone frequently leads us into errors which can only be rectified by time; it is a something which makes us do the right thing at the right time, which puts our household machinery into such excellent running order, that lookers-on are not conscious of the presence of any machinery or hard labor. Our observation must have shown us that a great deal of our happiness is depend-. ent upon our health, and the latter, in turn, upon the nature of our daily diet, and the way in which it has been put together. Mothers should therefore themselves understand the proper construction of food, and should teach their daughters so well that, when they have homes of their own, they may never encounter sour looks made sour and sullen by the repeated use of sour and heavy bread, half-cooked vegetables, soggy cake, pastry, etc. Young people -young men as well as young women-should be proficient in nursing the sick. They should be accustomed from their very childhood to the practice of the various offices of friendship to the sick. If circumstances prevent the acquisition of a studied knowledge of the art, they should, at least, learn by example, precept, and practice enough of the essentials of good nursing to make themselves valuable aids in the sick room. They must understand that little things are of great importance in the eyes of the sick; they must learn to make themselves the mind of the patient.

Knowledge of this kind is never useless, for we can all find occasions for practising it, and it assists in making us more tender-hearted and sympathetic.

Young people should be kept busy, not always in work, but in something that is good for them to do.

If, in the course of time, their inclinations lead them to occupations which take them from home, the parents should bid them God-speed, confident in the strength and binding force of their mutual affection, and not weakly keeping them at home for some of the best years of their lives. A case in illustration: A lady has two sons, one twenty-three and the other twenty years of age; they have no employment; they do not like the home?duties, and take no part in them; they sometimes become restless, and talk of attempting some business for themselves. Upon such occasions the mother says: "Oh no, not yet; I can not bear to think of being left desolate; stay a little longer at home as children; there is time enough." Such a course suggests the well-known words: "Yet a little sleep, a little slumber, a little folding of the hands to sleep," and it is hardly necessary to mention the almost inevitable result. And so with daughters-they should be busy, and if their active minds make them desire further occupation than they can find at home, they should be allowed to consult their tastes; for at no time of life is the mischief-finder for idle hands so unremitting and successful as at this time of budding and blossoming thoughts, feelings, and desires. Young people should now be upon easy and intimate terms with their parents; the time for government and submission having passed away, they should enjoy the society of each other upon a footing of something like equality. Parents should adopt the habit of advising with their children upon matters of importance, a course equally advantageous to parents and children-to parents, because as they advance in life their opinions frequently become one-sided, biased by accumulated prejudices, and behind the age; their children's suggestions, sent plowing around the old-rooted ideas, loosening the hard soil, and letting in the freshness and sunlight of their own more youthful and modern experience, may be of great value. The children, on the other hand, are benefited by the exercise of their judgment, which goes to improve its quality and strength. The feeling, also, that their parents are willing to confide in them, and to trust their youthful advice, strengthens the bond of attachment between them, and increases their self-respect and veneration for their parents.

In some families, where there is freedom and trust in regard to most matters, there is often found the closest reserve in regard to religious feelings. The reason usually given is, that children, from being in daily contact with their parents, are better acquainted with their faults than any one else; and therefore, for very shame, the parents do not speak of that which they so poorly practise. This is one of the most specious sophistries of our arch-enemy. It is our plain duty to speak freely and often to our children of our inner life and of our Guide and Helper—not in a formal, set manner, but reverently and lovingly.

There is frequently a suspension of confidence when children form those attachments which are to result in new family bonds. This arises from the fact that the thoughtful father and mother, looking at those chosen by their children with the eyes of their maturer age and judgment, see flaws of character which, in their opinion, render them unsuitable for their children. Their opinion they do not hesitate to express, which is an error of judgment.

They should look back to their own youth. Were they perfect when they were married? Are they perfect now? Is not every thing they have gained in strength or loveliness of character the direct result of earnest and persistent effort in overcoming faults quite as glaring as those of the persons in question; and is it not quite as natural that the latter should struggle to improve themselves? The mother has another reason-nature cries out with the agony of the thought that her children are, in one sense, to be taken from her; that she is to be no longer the first one with them; that they are to find rest and comfort and confidence in another heart than her own. The feeling can not be helped, but the mother who has gone thus far successfully in the management of her children will not falter here. It is a bitter and heart-rending time, but she will pass through it bravely, and give to her children the approval, encouragement, and love which they need.

If parents meet their children in this way, they will be made the first and most precious confidants in regard to the new loves, and this will continue even after marriage. There are families in which the married children never attempt any matter of great importance without consulting their parents.

There are strong, sensible men, and intelligent, self-reliant women, who never omit their seasons of sitting at their parents' feet to gain more wisdom, and to rest and warm themselves in the atmosphere of love which they ever find there. And this is the sweet and fitting reward of those who have faithfully accomplished the training of their children, and one which they may expect. They who start zealously upon the course of parental duty, but flag on the way, giving up one item after another of duty

can not look for this reward. There are those occasionally born into the world who may never be taught the right—their natures are full of in-born evil which will work out all through their lives. But it is not with such unnatural exceptions that we often have to do. We have the warrant of undeniable authority for the precept and its accompanying promise: "Train

up a child in the way he should go, and when he is old he will not depart from it." Still superior to the joy of having children to rise up and call us blessed, is our sure hope that, when we all meet as children in the great home of Eternity, we shall receive the everlasting reward granted to victors over self and the errors of selfishness.

Rhymes.

BY ONE WHO DID NOT WEITE "ROCK ME TO SLEEP, MOTHER."

HERE are sad poets, who sing us of life
As toiling, and weary with sorrow and strife;
Strong in their manhood, they sigh and complain,*
Pleading for childhood and spring-time again;
Finding no pleasure in brave-toiling years,
Moaning impatiently o'er "wasted tears,"
Crying, in anguish and suffering deep,
"Rock me to sleep, mother—rock me to sleep."

Brings not well-doing its own full reward?
Has not each true soul its trust in the Lord?
Pain may oppress us, and sorrow may come,
Grief overshadow the heart and the home;
Faithful ones know that the storm will float by,
Leaving the rainbow still spanning the sky;
And Hope plumes her wings, even while the eyes weep,
Soaring upward and onward where souls ask not aleep.

Never was loving unrecompensed yet,

Never a good deed that left a regret;

Sad disappointment may encompass us round,

Vice and temptation in plenty be found;

Spring may have fied with its passing perfume,

Dear ones have gone from our sight to the tomb;

True hearts, though saddened, some treasures will keep,

Guarded by angels whose eyes never sleep.

Shame and dishonor will ever bring shame, Blaming and coldness will ever meet blame; Reckless deceivers will still be deceived, Heartless aggrievers be surely aggrieved;

Mr. O. M. W. Ball claims to be the author of "Rock Me to Sleep, Mother," composed by Florence Percy.

Selfishness still mix the gall with the sweet, Envy and Pride scatter flints for the feet; Hate shuns its future, and backward would creep, Seeking surcease of sorrow in childhood and sleep.

A pure faith hath ever for sorrow a balm,
A sure hope can whisper the tempest to calm;
Earth has no suffering, life has no sting
So poison and pointed, but true love can bring
From treasures unwasted a health-giving draught,
To blunt the keen pang of misfortune or wrath—
Till over the senses serene peace shall creep,
And the heart rise refreshed from the resting and sleep.

Cast abroad on the waters thy bread, O true Soul!

Fear not and faint not, though black waves may roll,

Bearing thy earth-hopes away from thy sight,

Striving to 'whelm thee in darkness and night;

Shaking thy robes from temptation and sin,

Keeping love's jewels untarnished within,

On through the darkness triumphantly sweep,

Blessing and blessed till the earth-life shall sleep!

Onward, then, onward, O Time! in thy flight
Bearing us nearer the fountain of light;
Onward and upward, O Heart! beating still
Unshrinking in duty, with resolute will
Of the now make the best, and, whatever betide,
To-morrow, remember, "the Lord will provide;"
Be faithful to all that he gives thee to keep,
Till in glory thy spirit is ransomed from sleep.
FRANCES DANA GAGE.

What are Tears?

ITTLE pearls from out the valley
Where the fount of feeling flows;
Little dew-drops softly resting
On the petals of the rose.

Little emblems of repentance
In the hardened sinner's eye;
Telling of a love long buried,
Which, though crushed, may never die.

Little rain-drops falling earthward
When the cloud of sorrow lowers,
Freeing it from half its burden

As the clouds are freed by showers.—Selected.

A Sound Heart.

BY REV. CHARLES M. BRIGHAM.

sound heart is the life of the flesh," says the Hebrew proverb, and of this proverb the pains and diseases of men are the perpetual commentary. Of the fleshly life the heart is the centre, not only according to the ancient prejudice, but according to the latest anatomical discoveries. It has not now, indeed, its former rank as the seat of passion and wisdom. In these last years, physiology has shown the soul of man nearer to the brain than to the heart—the skull, and not the rib-chest, holds the spiritual treasure. But for physical life, for the needs of the body, the heart is of the first importance. No man or woman can be "heartless" and continue to live, except in metaphor. The lungs may be pierced, the bowels may gush out, the limbs may be amputated, the brain may lose something of its substance; but a shot in the heart, any breaking of its wall, is fatal. There is no animal life without some kind of a heart. This is the working force of the body, which never rests, never, for more than a moment, pauses in its work, and over which volition has no power. You may hold your breath for seconds, even for minutes; you may fasten the muscles, so that they shall not move; you may leave the brain to slumber; but you can not will the heart to stop beating. From birth to death, in all seasons, in all atmospheres, in all experiences, by night as by day, in age as in youth, in rest as in motion, that even work goes on; and all its work does not wear it out. This realises perpetual motion in the life of man. The motion may be quicker or slower, but it goes on, no matter where we are or what we are doing. It has no care for circumstance or for character. A very wicked man may have just as righteous a heart, literally speaking, as a very good man, a heart which is just as faithful to its duty. If the black drop is in it, no one can see that drop. If the white spots of disease are there, they are invisible.

The heart, in our common and traditional speech, has to do with so many things of a spiritual kind, that its physical relations are not easily separated. The sacred volume joins "heart" to will, to feeling, to knowledge, and qualifies it by all kinds of epithet. It is a singular fact, however, that without knowing it the sacred writers use epithets of the spiritual heart, which exactly describe the maladies and

dangers of the physical heart. The "stony" heart of which they speak is found almost literally when the valves and passages of this mrscle are turned to bone. The "broken" heart is not an impossible condition, as medical experts know. There are hearts that "wax gross," and hearts that "grow fat," and hearts that are "hardened." There are "swollen" hearts, and "shrunken" hearts, and hearts "turned backward." What the Scripture says of the heart of Job, which God made "soft," and the heart of Pharaoh, which God "hardened," and the heart of David, which "smote him," and the "slow hearts" of the disciples of Jesus, is repeated in the details and demonstration of car-Nay, even that "Beast's diac pathology. heart" which Nebuchadnezzar saw in his dream as the portion of the wicked man, is curiously justified by the "cor bovinum," a disease of the heart which is treated in the books of medicine. Even cases of a "double" heart are on record in the catalogue of animal monstrosities. Postmortem examinations not seldom show an "unclean" heart, to which unhealthy parasites have fastened themselves; and that peculiar hum of the arteries, which the French auscultators call bruit de diable, may illustrate for us the devil in the heart of Judas. Indeed, what is the whole method of auscultation and percussion but a literal "trying" and "searching" of the heart, and "discerning of its intents?" In this way literally the "secrets of the heart are made manifest," and the ways of the heart are laid open. The heart may not be pierced, but it can tell its tale to the listening ear.

And yet the heart knows how to keep a secret, and is very adroit in misleading. As Jeremy says, it is "deceitful above all things." It may be diseased for months and years while it gives no visible or sensible sign of disease, and it may keep one in constant fear of disease, when there is no disease at all. No organ more than this makes one a "malade imaginaire." There is hardly any one, man or woman, of mature years, who has not at times been the victim of an imaginary affection of the heart, even if there has been no "falling in love." Sympathy brings this fancy. If you talk with an invalid of this kind about his symptoms, straightway your own heart begins to flutter, and strange sensations trouble you in the re-

gion of the chest. Half the medical class, who hear lectures upon the heart and its functions, are watching their own pulsations while they listen to the lecturer and gaze upon his diagrams. A book upon the heart is read by that organ as well as by the eye and brain. The actual hiding of the heart leaves more room for the imagination to deal with its phenomena. A good deal, certainly, is not imaginary. The functional derangements of the organ are very Its accelerated beatings, its occasional sharp pains, the dull uneasiness which seems to press around it, are by no means delusions in a great many cases. We can not laugh away the conviction of one who really feels these troubles, or make him believe that it is all hallucination. Trouble in the heart, even when it comes from wind in the stomach, is too serious in its effect upon the mind to be treated contemptuously. There is nothing more depressing than the conviction that there is something wrong about the heart, we can not exactly tell what, but some disturbing influence there—that we have what Solomon calls in that great dedication speech for the Temple, a "plague of the heart."

The heart is subject to many and very serious "plagues." It may grow beyond its bounds: its walls may thicken, or may expand; its channels may be distended; it may waste away and lose all its roundness; it may melt away, even when the soul is not sentimental; it may be imbedded in layers of tissue, or it may be drowned in dropsical effusion; it may be ossified or indurated; it may be inflamed in its inner costings, or in its outer lining; aneurism may block doors, and anemia may leave its chambers ornity—these are real troubles, which make a large chapter in theory and practice of medicite. Many maladies which were formerly referred to other sources, are now traced to the hart as their centre. Apoplexy belongs to the rt more than to the head. Sudden death in at cases is ordered by this organ. The heart now held responsible for what used to be iled asthma, and plethora, and has become unstee for many estates of the body. An examination of this organ, whether in its place, or in its communication with other parts of the body, is the first act of understanding and prophecy in all disease. When a physician is called to his patient, the first thing that he does is to feel the pulse, to put his fingers on the artery that he may so at once get into telegraphic intercourse with the central office and find the state of the heart. "Is the heart right?" This is a fundamental question of medical inquiry as well as of religious revival. To ascertain the way and work of the heart is the first need. If there is disease or disturbance there, the whole treatment will be affected by the revelation. If the currents there flow regularly and the valves move with easy motion, then the prospect is favorable, and the patient may be safely and wisely encouraged.

In some families disease of the heart is hereditary. From father to son, from generation to generation, it is handed down, and the children know that whatever legacy of outward possession may fail, they carry this legacy in the constitution of their bodies Where this constitution is entailed in the blood, the prayer to be delivered from sudden death is futile and unavailing, though it be read every Sunday with all fervour. If ancestors have died in that way, it is probable that the habit will continue. Where there is predisposition to disease of the heart, there will always be more or less apprehension that the call of the heart may stop the movement of the machine. This apprehension, after a time, becomes a fatalist resignation, which gets so accustomed to expect death at any moment, that the fear seems to subside. There are men of venerable years, who still eat well and sleep well, who tell you that they have had disease of the heart ever since they were born, and have never felt of any day, but that it might be their last day. There was a youth in Harvard College more than thirty years ago, who took pains to inform all his classmates at the beginning of his course that they must not ask him to walk or run with them, to play at cricket, or to engage in any manly sport, because his heart was out of order, because he bore this inherited curse—and who after a year or two found that study excited the organ unduly, and left College altogether. Yet he is now the respectable father of numerous children, portly and serene in figure, and has a reasonable hope of living to the full age of man. His heart is still haunted by the spectre of disease, but he has become so wonted to the ghost that he has ceased to vex himself by fear of so harmless a familiar spirit.

And where this tendency to heart disease is not handed down in the blood, there are many causes which excite it. A common cold may lodge its destruction in this organ. Rheumatism goes there, and when rheumatism is fairly fastened in the heart, human skill can not get it away. Disease of the lungs propagates itself very easily in the premises of this next-door neighbour, and the heart is rarely quite clean when the lungs are foul and encumbered. The liver, which is over against the heart, makes

the heart partner in its miseries, and the melancholy heart is often only a manifestation of superfluous bile. Dyspeptics are very apt to feel their woe in their hearts not less than in the gastric region; and no person suffers more from pain in this organ than the victim of gout. A twinge in the foot is answered quickly by a palpitation in the chest. Indeed, as the heart controls the circulation of the blood, all diseases in which the circulation is involved must tell upon the distributing reservoir. Even those sore boils, by which Job was so tormented, may have had their effect in softening his heart, as he describes the work of the Lord with him. So long as any disease lingers in the system, the heart is not safe. The most remote extremity sends its message to the centre. A corn on the toe may harden the heart, and a felon on the finger may make the heart wicked, in another way than by the impatience which it causes. In the more important maladies, fevers, choleras, and the like, the heart is always intimately concerned. The decomposition of blood, which cholers brings, throws disorder at once into all the chambers and passages of the machine, and the speedy end is caused by the loss of cardiac power. Death from cholera might be called death from faintness of heart.

The external signs of disease of the heart are not very trustworthy. Lover's sighs are not a sure sign, and lovers soon recover from their The discoloration of the iris, the malady. arcus senilis, which shows in the eye of old age, can not indicate trouble in the heart beyond a doubt, though with other signs, it may suggest a degenerate state of the organ. The "sardonic laugh" is not peculiar to an inflamed pericardium. Shortness of breath is not by any means an infallible test. That a portly matron can not run on the play-ground like a schoolgirl, or a grave citizen climb a hill without panting, does not prove that their hearts are enlarged, or are disordered in any serious way. Growing years may be expected to change in some degree the action of the heart, and old age tells more effectually upon this organ than upon any other.

And the remedies of a diseased heart are very few. Literally, it is impossible to heal a broken heart. The broken head may be bound up, the broken arm may be put in splints, but the broken heart can neither be bound nor pressed together. Every wound here is fatal. For other lesions and derangements of the heart the materia medica is very scanty. Not more than half-a-dozen drugs are prescribed even in the heroic practice, and these are used with con-

straint and hesitation. Wine, which maketh the heart glad, has in some cases a quickening ministry, and rouses the pulse of age. Opium stills the paroxysms of this organ, while it ' quiets the nerves. There are cases in which nux vomica may be properly "exhibited," and in permanent inflammation of the membranes, iodine assuages the fever. Once, blood-letting was the authorized remedy, and for a plethoric heart, Sangrado was the only physician. But now this sanguinary style has ceased, and the lancet is hardly better for the heart than a dagger. Only a few hold to the method which would deplete the labouring heart by opening veins, and spilling the current of life. Even the fox-glove, the sovereign remedy for excitements of the heart for so many ages of medicine, is losing its favour, and there are not wanting skilful men, who think that this famous digitalis really kills more than it heals. At best, it only palliates the disease, but does not remove it.

The remedies for heart disease must mainly be applied before the disease comes on. There is a regimen which may protect this organ and strengthen it in advance. Its secret place can be reached, and a sound heart in a sound body can be secured by proper care as much as a sound mind in a sound body. Most of the rules which apply to the protection of the heart are, however, of a negative kind, telling not so much what to do, as what to avoid. In general terms, one who has any tendency to disease of this organ, must practice self-denial in a good many ways, giving up not only what is injurious in all constitutions, but what in other constitutions would not only be harmless, but excellent. Some things which we should advise others to do as the very means of preserving health, we should advise those whose hearts are uncertain to shun as dangerous. What may be meat to others will be poison to them.

1. And the first advice to give, where there is any sign of trouble in the heart, is to second elent exercise. Athletic sports are not fit for one whose heart is weak or touched with any infirmity. Not for him the lively oar; not for him the dexterous bat, or the leaping of walls, or the skilful fly-catch; not for him the steeple-chase, or the fox-hunt; not for him any sport that heats the blood or strains the muscles, or tries the breath. If he rides, it should be at a jogging pace and on a steady-going oob, and not on any fiery charger. If he walks, it should not be as one who walks for a wager. Bunning, under all circumstances, is to be prohibited, though all the fire-bells are ringing, or

his watch tells him that he will be late for the train. He should be exclusively a land animal, and not even in the heats of summer venture to blow or tumble in the wave. His physical exercise should be of the gentler kind, of the parlour variety, the ninepins that are knocked down upon a "cue alley," or the refined thrusts of the billiard table. Phelan, rather than Heenan or Morrissey, should be the model of his choice. Some exercise is as important for the health of a sensitive heart as for any of the bodily organs. Laziness and languor are likely to aggravate its malady. But its exercise ought not to be too strong in kind or too much in quantity. A little at a time, often repeated, is better than heroic doses of muscular exertion; enough to stir the blood, but not enough to press its currents.

2. A second condition should be to avoid stimulating food and drink. High seasoned dishes, hot with spice and pepper, are as bad for the heart as they are for the feet, and affect these organs simultaneously. One who feeds habitually upon curry or cayenne can not hope to keep his heart free from evil. The fit food for the heart must have a lower tone, the soup must have more of water than of fire, and the sauce must be the juice of the meat, rather than the inventions of Soyer or Ude. ' And hot drink is equally to be shunned, whether the heat be latent in the beverage or added by communication. French brandy, crusty old port, Schiedam schnapps, Bourbon whisky, Syrian arrakia, and all liquids of that kind, are dangerous appliances for a troubled heart. Coffee in the French style, or tea in the Russian style, are hardly safer. A habit of "total abstinence" is a much better protection to the heart than any experiment upon the quality of intoxicating fluids. To warm up the cold heart with generous wine, and rouse it from its faintness, may sometimes be necessary; but the constant use of any stimulating drink will tend to increase rather than keep off the danger. That counsel to Aaron and his house applies as well to all whose hearts are weak as to the Levitical priesthood, "Do not drink wine nor strong drink, thou, nor thy sons with thee, lest ye die."

3. And another important warning, if the heart is to be preserved safe and sound, is to sroid physical bulk, not to get fat. The heart is apt to degenerate, as layers of tissue are piled upon the frame. It can not do the needed work for the sustenance of an elephantine mass. Lean men sometimes suffer from the plague of the heart, but fat men are more likely

to feel it. There should be restraint of appetite where there is this tendency, a brave sacrifice of all that tends to deposit superfluous flesh, of sweets and of rich viands. The boardinghouse "hash," which, according to the story, was so willingly relinquished in the Lenten season, is safer as a feast, where the heart is in question, than any saccharine luxuries. In one of the Hebrew songs, Asaph tells of the foolish how "their eyes stand out with fatness, and they have more than heart could wish"-which we may interpret as meaning that too much flesh shows in its heart the evil of its barden. Banting's regimen is not wholly to be commended, but he is a better guide than those who say to the fat men, "Eat all that you want." Obesity and heart-failure are apt to be so near that we may see in them cause and effect. The heart becomes fat and sends its dullness to the senses, when the body is weighed down by grossness.

4. All kinds of excitement are dangerous where there is tendency to disease of the heart. And a fourth advice is to avoid excitement in such a case. All places and scenes where the passions are liable to be stirred-anger or fear, or strong sympathy-are to be shunned. Moderate amusement will do no harm, but the tragic drama or the actual battle-field are alike unsuited to this kind of physical ill. The excitement of a crowd at a fire, or of a crowd in some noisy political meeting, may be disastrous. One whose heart is out of order should keep out of politics, out of speculation in gold or grain, out of very gay assemblies, out of religious revivals. In these last assemblies, the soul may be saved at the expense of the heart. A regular and quiet life, free from extremes, unbroken by noise and confusion, is better for the heart. Other things being equal, the heart keeps its even play more surely in the country than in the city, and in a Church which relies on stated means of grace, rather than on shoutings and spasms of piety. Fear is one of the worst enemies of the heart, though its pleading be for the Lord and his kingdom.

5. Not unlike this last counsel is another, not to worry, not to be anxious and troubled, not to brood over difficulties. Care upon the mind is apt to tell upon the heart. Forebodings find their lodging in these chambers. Cheerfulness is the best protection of a heart in danger. A sanguine soul keeps the blood in healthy motion. Mark Tapley, who would be jolly every where, and make the best of all evils, was proof against any ossification or atrophy in the seat of life. An uneasy temper, unsatisfied, com-

plaining, vexed at trifles, exaggerating troubles, acts inevitably on the currents of the blood, and brings on functional derangement, if not organic disease. A merry heart makes a glad countenance; and a bright face and cheery voice are the signs of a heart right within itself.

6. One more caution needs to be given, not to think too much about one's own heart, not to watch symptoms or wait for sounds and sensations. There are very few cases in which one gains any thing or learns any thing by feeling his own pulse; the ear and hand of the medical attendant are the only ear and hand to find the disease. The Romans had a proverb, " cor me edito," "don't eat your heart," which is good advice for those who are always experimenting with their own hearts, and trying to see if something is not wrong there. The result of that experimenting is very likely to be actual disease. One who has any idea that he is a real or possible subject for trouble of this kind should never open a book about the heart, or converse on this theme with others. The heart acts most freely, when the mind holds no check upon it, when it is not under the eye of any spy, and when there is no call for its account. As its motion is beyond the reach of the will, so it ought to be beyond the uncertain fancies of thought. Care for habits in other ways, and let the heart take care of itself!

There are topics which we have not touched in this essay, which have interest in such a connection-the question of malformation, the question of misplacement. There are instances on record where the heart has been turned around, and its beating felt on the right side instead of the left. The quack in Moliere's comedy was nearer right than he knew when he reversed the inner organs of the body. Even it is possible to live for some time with only one auricle and ventricle, and "halfhearted" is not merely a metaphor. The curious "blue disease" of the heart, coloring lips, nails and cheeks with a blue tint, and destroying all blushes, would naturally induce melancholy.

DISBELIEF IN THE DEPRAVITY OF CHIL-DREN—When Dr. Arnold went to Rugby the school was in a frightful condition, and it was considered clever and manly to do the basest things, and then to deceive the master about them. Arnold never for one moment appeared to believe that he was being cheated. He said, practically, "Boys, I will not believe in your

depravity;" and then presently the boys were all saying, "What a shame it is to lie to Arnold, when he always believes you!" and then the man's faith in the boys burnt up all the faithlessness in their hearts. Isaac T. Hopper -one of the noblest men, in his way, this country has ever known, and in nothing more wonderful than in his perfect love of and trust in peace and good-will—was a most extraordinary child. The way that little fellow would astonish the Quakers who came to see his folks was a marvel His pranks with pins and twine, and even gunpowder, can not be told. I have no doubt that many a Friend went away feeling that if ever the unnamable incarnation of evil did get bodily into a boy and stay there, that little Hopper was the "all-possessed." one thing was steadily there through all the pranks the lad would play, and that was a cortain quick reproof of conscience-the good striving with the evil; and a wise mother was there to believe, as all wise mothers do, that what was good was sery good, and the evil was never very bad, and that by God's good blessing on the boy, and her wise and loving care, it would all come right; and so she found that at last the mischief of a child who was only mischievous because he had more energy than he knew what to do with, became the strength of a man among the noblest and best of the good in this age. It is but one instance in a thousand of a nature so full of life in our own children, that we don't know what we shall do with it. Yet, while we are fretting and foreboding, but still doing the best we can, the unslumbering Providence is

"From seeming evil still educing good,"

touching the conscience when we do not know it, opening the new nature in his own ways to the new heavens and new earth. So we must welcome little children—the new creation on which and in which the whole future world rests; give them a great welcome, and take care when they come that we do not destroy what they bring with them from God.—Relet Collyer.

Don't BE AMBITIOUS.—Don't be at all too desirous of success; be loyal and modest. Cut down the proud towering thoughts that you get into you, or see they be pure as well as bigh. There is a nobler ambition than the gaining of all California would be, or the gaining of all the suffrages that are on the planet just now.

Woman's Wrongs.

BY DR. J. H. HANAFORD.

MITTING all reference to the mooted question of "Woman's Rights," and disregarding some of the grave accusations of the "sufferers" as unworthy of special attention, regard, or extended notice, it is but proper and right to examine this subject in all of its bearings, giving it that candid consideration that its importance demands. That woman is often a sufferer, a victim, will not admit of a reasonable doubt. Some of her abuses relate to her own improprieties, and some to the unjust demands of the coarser and sterner sex.

In the first place, she is deprived of a good constitution-physical, mental, and moral-by causes exerting an influence before her birth and in early childhood, by far the larger number of children being introduced into this world of conflict weak, puny, half-created, their mother having scarcely vitality enough to energize her own being-none to impart properly to the prospective being. Let the mother remedy this evil by obedience to physical laws, adopting a wholesome diet, guarding against extremes, fortifying herself against "colds" by a wash of the body in cool water, and not overlaboring. Some are born morose and unhappy, caused by a similar condition of the prospective mother. If this condition was produced by the unkindness of the husband-thoughtless or otherwise-let him reflect and "do works meet for repentance," if he is possessed of sufficient manhood, not to say humanity, to deserve a good wife. Or, if it is caused by peculiar feelings of the prospective mother, sometimes regarded as beyond control, let such remember that she is a responsible being, and that she exerts an influence in this matter, of which she may know but little, fearfully affecting her offspring, controlling its future destiny, making its life miserable or happy, almost precisely reflecting her own condition, these "mother's marks" being the most important ever made Let her look upon her condition, not in shame, not with a false delicacy and squeamishness, indicative of a low standard of morality, or of something worse; but let her regard her condition as honorable, interesting, by no means indelicate, really adapted to give us exalted and adoring views of the Creator, whose power, goodness, wisdom, and skill are remarkably manifested in the reproduction of an immortal

being, challenging feelings of wonder and adoration.

In more advanced life, the future woman is wronged by an unnecessary restraint in girlhood, when nature demands exercise, freedom to "frisk and gambol" like the lamb, strengthening the muscles, giving general elasticity and invigoration to the body, just what she will need in after life. Let the mother divest herself of these false and fastidious notions, allowing her daughter to follow the innocent and natural impulses and promptings of her nature, having, at least, a part of the freedom allowed to the son. She need not become a "romp," but she should be made a rosy-cheeked, plump, firmmuscled, healthy girl, since only such are fit to become the future mothers of the race. " Health is as much a virtue as a duty," and as applicable to females as males.

Again, woman is a sufferer from the fact that her labors receive an inadequate reward. This is more easily stated than remedied. The laws of trade are as inexorable as those of the "Medes and Persians." The relations of supply and demand control in this matter. Employers, male and female, will pay only the market price, since by this course only can they compete with others. If one pays 25 per cent. more than others for labor, he must sell correspondingly higher, which is impossible. This evil must be endured until the demand for the labor of females shall reach the supply. Then the employer and employed can compete. Females must supplant those now occupying positions requiring but little muscular effortsome of whom have more of the semblance of manhood than its characteristics—as they are now doing to some extent, driving the "drones" into some more legimate employments. Females will receive a fair compensation for their services only when such changes occur-when custom or public opinion gives them a wider range of employments, creating a greater demand for her services, a scarcity always advancing the prices.

Intimately connected with this are disadvantages relating to defective and insufficient education, and relatively inferior social position. In some respects money is very potent, and always must be, since it purchases necessary commodities. An adequate compensation for serv-

ices, and this only, will remedy these disadvantages. But, to remove this evil, woman must have better health, more physical endurance, which implies a reconstruction of some of the prevailing "fashions"—less devotion to them, and a total and thorough renunciation of the fatal heresy that it is desirable, delicate, fashionable, and feminine to be pale, debilitated, etc., or she can never compete with man in any of the avocations demanding any considerable amount of endurance. Let woman look to this.

Again, woman also suffers from overtasking the physical powers, especially in civilized life. In barbarous society, where she is expected to perform the most laborious duties-the labor properly devolving on the coarser and more muscular sex-she is crushed far less than with us, in conditions in which she is not expected to perform the drudgery. In the former positions, her physical frame is developed correspondingly by the influence of free air, sunlight, etc.; while with us delicacy, weakness, and effeminacy are too often coveted. There is too much labor in the kitchen, especially during the heated season. The most taxing of this-that which exhausts the vital forces to the greatest extent, undermining the constitutionis not only unnecessary, but positively destructive to health and vigor, a wide departure from the simplicity of the past generations. I refer to complicated cookery, to the compounding of dishes known to be unwholesome, difficult of digestion-just such as unprincipled and coveting physicians might suggest as a means of increasing business. It is well known to every cook that the plain, simple, and wholesome dishes require far less time than the pastry, the "made-up" compounds intended only to gratify vitiated tastes and morbid appetites. If all of this extra labor is done to "keep up appearances," to imitate certain neighbors, let woman look to it; but if done in response to the unreasonable demands of a husband who "lives to eat," let him reform. I can not call to my aid words of condemnation sufficiently emphatic to express my contempt of a man-only in outline, in form-who is willing to sacrifice the health of his wife, and endanger that of his children, for such a purpose,

If one of the "weak" should fall, should step saide from the path of virtue—a manifest crime—most flagrant injustice is done, by whom I need not say. Let woman look to that. Scorn, contempt, degradation, coldness, and neglect constitute the fearful penalty. While none should apologize for the sin, it is certain that the sinner is terribly punished, a worse

than the mark of Cain being burned into her very being. Womanly affection should redress this grievance. Humanity shudders at the thought of crushing the fallen, when kindness might save the erring one, transforming her into a good citizen. Mercy utters her tender voice, and says, "Spare." Christianity, by its great Advocate, says: "Neither do I condemn thee; go, sin no more." May we not follow the great Exemplar?

These are some of the wrongs of woman, the removal of which will materially modify society. After this is done, it will be time to agitate some of the impracticable schemes sometimes so zealously presented.

THE NEW GENERATION.—The hope of mankind is not in the old life so much as in the new birth. If the Marquis of Worcester had lived clean down to the days of Watt, nobody believes that he would have added Watt's steam-engine to his century of inventions. Franklin at eighty-five was as far or farther than ever from inventing Morse's telegraph. Servetus and Priestly might have lived to the age of Methuselah, and they would never have been Channing, or Parker, or Wilberforce; Garrison, or Elizabeth Fry, or Lucretia Mott. "What shall we do?" cries the nation; "our great men are dying out!" Yet it is not in the hundred distinguished men, but in the thousand undistinguishable children that our hope lies. This preacher has got almost to the end of his tether; but there is a three-year old child somewhere, standing on a stool, preaching to a three-year old audience, who will win the world to a sweeter and nobler gospel in his pulpit. All posterity stands before us in the presence of the children now in their cradles, or in the deep mystery of Providence toward which the world is always looking; and every generation begins the history of the world anew.—Robert Collyer.

SILENT TEACHERS—The silent influences of life are by far the greatest. We do not know at what moment we are stamping the character and coloring the whole future life of our associates by our voiceless example or our most unpremeditated words. Many a father has poisoned the purity of his boy's soul by employing an unprincipled hand on the farm for a single season. It is not enough that your workman has brawny arms and is a good worker. Are his habits also good? If not, better let your grain-fields rot on the soil than employ him.—Workin; Farmer.

Alone.

BY MRS. ELIZABETH OAKES SMITH.

A LONE, alone! in utmost need,
With conscience banning evil deed,
And heart that breaks not, though it bleed.

All, all alone! to solve the doubt— To work our own salvation out; Casting our feeble hands about

For human hope, or human cheer, Or only for a human tear— Forgetting God is always near.

The loveliest face hath never brought Its loveliest look; the deepest thought Is never into language wrought;

And beauty to the highest art Slips from the painter's hand apart, And leaves him aching at the heart.

And music, borne by echo back, Pines on a solitary track, Till faint hearts cry, Alas, alack!

And love! his deepest, truest tone, Is known to God himself alone, And finds no answer to his own.

The wine-press must alone be trod,

The burning plowshare pressed unshed—

There is no rock of help but God.

The Blossom of the Day.

BY F. B. PERKINS.

THE last half of the forenoon is the best part of the day. It is the sunny side of the peach; the tenderloin of the steak; the early manhood of life—always supposing that a day is peach, steak, or life, respectively.

I do not mean for sleep or rest, however; but those are not life. I mean for doing. And the reason is obvious. It is that, in the ordinary course of things there is at that time a maximum of vitality on hand, and a minimum of expenditure of it.

All night the mysterious power of that self, of which we are so infinitely ignorant, has been silently accumulating strength—from where? From darkness? From silence? From unconsciousness? No human being knows. We can not even say whether this strength streams into us from the earth and the air, or whether it is

a blossoming and outgrowth of some force or activity within our own being, or whether it is something given with an individualizing love by the will, the mind, the heart, that vivifies all the universe. And if He does it for me, he does it for each one—beast, bird, and bug. At any rate, we have a supply of life to expend at morning, which we had not at night.

The supply of life which we bring out of bed, however, is in a very crude state. It is like delicate pottery, which may be perfect in material, in color, in shape, and yet is so tender and brittle that it will scarcely endure a touch, and must be carried through a deliberate annealing process—heated hot and then cooled gradually—before it is practical pottery.

The annealing process for the night's supply of nervous energy is breakfast, and its appendix, digestion. This supplements the subtle white life of the nervous system, which may be called spirit, with a vigorous red life of new blood, which may be called flesh; and with new spirit and new flesh together, our new daily man is complete. This process takes a couple of hours or so, at least, to go into effective operation. If, therefore, we are through breakfast by 8, the choice flower of the hours that I have described begins to blossom about 10 o'clock.

Have you an article to write; a series of thoughts to set in order; a problem to solve; a case to investigate; a set of facts to state; a delicate and critical piece of mechanical work to do; an important subject to discuss with some one; a plan of operations to construct; a quantity of goods to examine; a complicated piece of work to estimate upon; a mass of evidence to analyze and arrange; a collection of arguments to weigh, compare, analyze, and decide—in short, have you any thing to do that requires steady nerves, clear views, rapid and easy thought, just judgment—the best of all your abilities—devote to it the last half of the forenoon.

For drudgery the rule is of little importance. Whether a beast's belly was stuffed with hay five minutes ago or five hours is not of very much account. Yoke him up and drive on. If you have nothing to do but to "hoe your row," to carry a hod, to keep tally on packages, to copy papers, to read proof, go at it as soon as your meal is over. One can do three half days every twenty-four hours of such work as that; one in the forenoon, one in the afternoon, one in the evening. I have done it, for many a tiresome day and week.

Some very good people think it a fine thing to turn off a quantity of work before breakfast. For a man, this is stupid. It would do no harm to him, to be sure, if he had the constitution and endurance of a cast-steel bull-dog. I remember right well having been many a time routed out of bed and made to go out and work in the garden for an bour before breakfast. Sunrise is glorious. Beautiful are the twitterings of the birds; lovely indeed are the frash green leaves all pearly with dew. How sweet it is to lie snug in bed and think about them! But with the laxity and warm quietude of the night still curled and swathed about you; with stomach empty and system spiritually all right, no doubt, but unbent and lowered in a muscular sense by the long, warm rest-such treatment is about as kind and useful as it would be to fling down the bedclothes without notice and souse a bucket of ice-water on the victim. How cross it made me! How dirty and cold my hands were, with the dew and the earth together! How chilly I sometimes became, and how abominably repugnant was the muscular exertion that might have warmed me! Often and often I spent the hour with a sour face and a grumbling spirit that were no fault of mine, and then went to the breakfast table with just nausea enough from the unseasonable exertion to spoil my breakfast, and to underlay my whole forenoon with a stratum of cross, uncomfortable feeling! If I had a thousand boys, I would never make one of them work before breakfast.

The infliction was the more unaccountable, since the same stringent authority that did it, wisely prevented me from reading or studying before breakfast. To exercise the muscles at that time is just as wrong as to exercise the eyes; to use the eyes, just as bad as to use the muscles. The kev. Albert Barnes, a useful and laborious scholar, thought it a fine thing to do a quantity of work at his deak every day before breakfast. His wiry, enduring constitutional texture resisted a long time, but at last he became blind, or nearly so; and good enough for him! It was a most evil example.

Honest Independence.—A tree must be rooted in the soil before it can bear flowers and fruit. A man must learn to stand upright upon his own feet, to respect himself, to be independent of charity or accident. It is on this basis only that any superstructure of intellectual cultivation worth having can be built.—Froude.

Men versus Money.

BY REV. HENRY WARD BEECHER.

THEN the welfare of men, their virtue, their intelligence, and their happiness, is weighed in the scale against money, avarice is the stronger. It is true respecting the whole enlightened community and political economy, that the interests of virtue, and whatever promotes virtue, is a good investment, and whatever destroys wirtue, in the end injures property. Comprehensively, in a large view, intelligence and religion are good for the lowest interests in a community, as well as for the highest. They are not alone beneficial to men in their family relations, and in their higher social connections and future estate—though they are preëminently beneficial in these. It would be the interest of every man, even if he looked only at his pecuniary advantage, that there should be integrity, purity, disinterestedness, elevation of piety, true godliness. Vice is a corruption, not of morals simply, but of property as much. It is not only a burden to its victims, but it is destructive to the whole community as well. It is a taxgatherer and oppressor. It wrongs the poor, it wrongs those who are next to the poor, it wrongs those who are next to them, it wrongs you, it wrongs me, it wrongs every body. Every single moral influence that is put forth in the community, doing good to the actor, does good more or less to the whole community; and every single evil influence that is exerted in the community, doing harm to the actor and victim, also does harm to the whole community. We are so bound together, our social connections and sympathies are such, that reflectively the good part of one is the good of all, and the evil of any part afflicts the whole. Such is the moral constitution of this world, that godliness is profitable in all things. But to those classes of men who do not understand or care for any good except immediate good, and physical good at that, it does not seem so. The profitableness of virtue, in a remote way, incidentally, is nothing to men who have no faith of to-morrow or of next year, who live by their senses for the immediate moment, and to whom living means some pleasure in the nerve, and some gratification of the muscle. They do not hesitate, therefore, to make money at the expense of human purity, human happiness, and life itself.

It will not do, then, for us to be sentimental, and exclaim against such degrading views of human nature. There is nothing more patent, and nothing more melancholy, than that a man will make money out of his fellow-man—literally, out of his blood and bones—if he can. There is no measure of cruelty, there is no depth of wickedness, there is no degree of meanness that men will not come to practice for the sake of getting money—I hope at first with scruples and reluctances, but at last without sensation or delicacy. There is nothing gigantic in fraud, there is nothing base and treacherous and heartless, that man will not do for the sake of realizing pelf.

If you should take the treatment of emigrants that land on our shores; if you should take the deliberate deceptions, the fleecings, the overwhelming ruin brought upon families, their beggary, and what is worse, their compulsory degradations; if you should cull from mute lips histories, now suppressed and unknown, of unutterable anguish suffered by those who can not speak the tongue of the land to which they have come; if you should know that these things were reduced to a business, and were carried on by men who cared neither for tears, nor anguish, nor separation, nor the deep damnation that they heaped on the victim's head. you would not doubt that men would do any thing for the sake of money.

Strangers that sojourn in our midst find themselves watched for, as men watch for game in the woods. The trapper does not more cunningly spread his snares and traps for game, than do gamblers and soul-destroyers set their traps for men—and with no desire except their destruction, and out of that destruction no end except to make their temporary gain.

The testimony in respect to the treatment of sailors; in respect to the lairs and dens into which they are enticed; in respect to the outrages which they suffer; in respect to the utter abominations of inhumanity that from year to year remain unexplored and untouched—this is one of the most prolific chapters of bottomless lust and avarioe.

You know very well how all the power of the Government, and all the interpositions of beneflcent organized citizens, in the late war, were not enough to save the soldiers from the most audacious robberies. How many of them, after having gone through summer and winter in the camp, and on the battlefield, and faced sickness and death, and endeared themselves to the imagination of every true man, drew their bounties and hard earnings, and started for home, and on the way were robbed of their little pittance, and rendered bankrupt—and that, by those who had the shape of men, and would deny it if we said that they were monsters!

It strikes the imagination when it is one who wears the uniform of a soldier; but this villainy is carried on under circumstances more trying still, where it is a woman instead of a man. A man, if he is stripped of his possessions, can repair the damage again. If he is thrown down to-day, he is on his feet again tomorrow. There are endless resources open to a man. But a woman-what can she do? There are thousands and tens of thousands in these cities who are dependent on one or two sources of support; and they often fall into the hands of men the most unprincipled and avaricious. There are thousands of sewing and laboring women who are driven down to a point of poverty beyond which one single step is starvation-oh! starvation is the door of heaven in comparison-domnation! And into that, with utter indifference and remorseless greed, they are thrust, as sheep are thrust into the shambles for butchery.

We all know that this is so. It is no time, therefore, to be sentimental, and say, "Men can not commit such wickedness." It is no time to say that men can not, in civilized society, be guilty of cannibalism. I tell you, there are more cannibals in New York than in the isles of the Pacific! and if to-day you were suddenly to take away the support that comes from eating men, there would be thousands and thousands of empty maws to-morrow in that city.

Vast sums, millions of millions, are invested in a way which directly and obviously results in the utter destruction of men. All the forces of huge capitals are invested in ways so notoriously dependent upon the morbid tastes of men, that every step you take to correct those ways is understood to be an attack on capital.

There are dens and orgies. Nothing this side of hell can equal multitudes of these places. We do not need to go to Vesuvius to see volcances. We have them all around us, in spite of the police, and the common sense of the community; and it is only because capitalists have an interest in them. They may not be known. You can not tell by the way a tree

looks where its roots are sucking sap from. There is many a man that wears clean linen, and has good associates, and appears regularly at the house of God, and sits down at the communion table, and munches his bread, and drinks his wine, and seems to be a Christian man, who, if you follow down his roots, you will find to be sucking sap out of the common sewers. And these dens are kept open, and are sustained, in spite of law and public sentiment, because capital is interested in them, and is at the bottom of them.

Palaces of pleasure there are, where death is double-edged. Hundreds and thousands are traveling in ways which are called ways of pleasure, but which are ways of damnation; and there is great capital invested in them. These haunts of miscalled pleasure are winked at and encouraged by thousands and thousands besides those who are known to be directly responsible for them. If it were not for what may be called respectable hypocritical capitalists, they could not exist as they do.

Saloons and gambling hells, which are never far apart, are scattered in wondrous profusion over all the cities. Why, if there were such means for moral culture; if schools were as thick; if provision for refinement, or solace, or succor, or relief, were as great, men would marvel. They would raise the cry of predigation. Not flies in summer are thicker than saloons for depravities.

Look at the ways in which men seek their living by adulterations in food. We who are in comfortable circumstances may by vigilance save ourselves from the evils of this practice of adulterating food; but the poor, that must buy what they can get-what abominable trash do they have put upon them! Ten thousand wretched hearts have sighed, and sorrowed, and prayed to God, saying, "Lord, why has my babe died?" It was killed by foul milk, drawn from the foul udders of foul animals, that were fed to disease, fever, and rottenness! there are men who go on furnishing the community with such milk, just because there is a good deal of money made by it. Suppose it does slay five hundred children in a year, what are five hundred children compared with money in the pocket? To such an extent, in every civilized land, is it carried, that governments are obliged to interfere and make inquisition by means of mechanical tests. And it is found that men learn how to cheat faster than their cheating can be detected.

As if it were not enough to destroy human life by the adulteration of the supports of life—

flour, and meat, and all articles of luxurymedicine itself, that should restore us to some degree of health when sickness has thus been brought upon us, is adulterated to such an extent that doctors hardly dare prescribe it, unless they know the brand and are certain of its genuineness. Doubtless thousands of lives are lost, at critical stages of disease, because the potion failed to produce the desired effect, on account of its having been adulterated. And do · you suppose that these men who are adulterating food, and corrupting the staff of life, do not know that they are spreading sorrow and trouble and mischief? They know it perfectly well; but they do not care. They are making money, and that is the main thing to their thought. All human comfort, and life itself, put into one scale, with money in the other, does not weigh a particle, so far as they are concerned.

And whenever legislation attempts to correct such abuses, these men set at work every influence within their control to maintain their bad ascendency. They interpose all the obstacles they can to the success of reform. They have done it in the past, they are doing it now, and they will do it in the future. Whenever it is proposed to maintain public order, and put down public ruin and disgrace, the air is full of cries of men about the violation of their liberty and their rights. What are such men as these doing, but standing at the bloody crank of the huge mill into whose hopper is thrown men and women and children, as they grind them up to make money out of their blood and substance? And yet when you, by sober law, attempt to restrict and restrain their mischief, their outcry is, "Art thou come to torment us before our time?"

The great battle between the lower passions and the higher passions has been going on from the beginning of the world down to our day, and is to go on, not less, but more flercely, to the end. We are born into a world in which the problem of time has been a conflict between the animal and passional nature, and the spiritual and divine nature in man. It is the problem not only in small neighborhoods and communities, but in cities and nations. And there are great tendercies, thank God, toward victory in the moral realm of mankind.

As we are born into the world where this battle goes on, we are bound to take our part in it. It is not a thing that we have begun. Men seem to think that if it were not for the meddling of ministers and impertinent philanthropists running about and interfering with liquor

dealers, and all manner of men that have an interest in corruption, it would be a great deal better. And they do not want to be meddled with. Neither did Sodom and Gomorrah want to be meddled with. They wanted to be left free to pursue their evil courses. And wicked men are full of high-swelling words and contemptuous aspersions against men who are meddlers, as they call them. "Why do they not mind their own business?" say they. We do not make the disturbance. We were born into a world where good and evil already existed. We are as much responsible for equinoxial storms as for good and evil. And in the moral world, by the natural working of things, evil is disturbed. This is an important sphere of labor in our cities to-day. We have ten thousand positive things to do in the way of instruction and up-building. The ground-work of to-day is a positive, and not merely a negative one. We are to take our stand in the conflict between right and wrong, and struggle for the right. And citizens should clearly understand the nature of those conflicts which bubble up now and then in human affairs. No man has a right to be indifferent to these things of good and evil; and you can not but choose one or the other. Which will you choose?

All true citizens should be taught to unite, and to secure the triumph of purity, and right, and humanity, in our conflicts. The time has come when good men are in such numbers that, if they will cast aside inferior issues, and turn their hearts to great moral ends, there is no question but that these cities may be controlled, and purified, and lifted up; and I think there is no triumph that would be more illustrious than to have the world see that, not by physical force and violence alone, but by legislation seasoned by virtue, and faithfully executed by an intelligent people, these great cities could be made pure, just, humane, right.

I do not object to sending missionaries to India. Every missionary sent abroad leaves the missionary spirit at home. I sympathize with, and urge, the sending of missionaries to the islands of the sea. But, while they are attacking remote heathenisms, here is a Juggernaut in our midst. Here in the liquor interest; here in the polluting interest of licentiousness; here, in fraud and malfeasance, are the great death-sores of American society. And it is the duty of every Christian man, in every instance, to see to it, that where he is called to exert himself in public affairs, he so acts that his influence shall go to sustain justice, purity, and right.

What I Think of Kindergartens.

BY EMMA C. WHIPPLE.

THE most striking contrast between the present Primary School system and that of the Kindergarten consists in the utilization by the latter of the natural traits and activity of young children. Froebel seems to have made a discovery of certain laws which govern the development of children, and to have, in a most wonderfully beautiful and simple method, adapted means to this end.

The "irrepressible infant," the terror and the charm of the orderly circle of proper and staid elders, under Froebel's methods becomes harmonious and orderly, and finding food for his activity in the series of occupations devised by this benefactor, ceases from destroying every thing within his reach, and learns to create forms of symmetry, to enjoy exercise of skill of hand in many various ways, and all this without constraint having been imposed; direction, it is true, is given, and the true meaning of the word kindergarten expresses just the sort of direction, for to give each plant a culture fitted to its best growth and development, and to prune and train into orderly and beautiful growth the plants under her care, & the function of the Kindergartener.

Froebel seems to have thoroughly believed that the all-wise and good Father knew what these little ones needed to enable them to attain the harmonious development which is the birthright of all who are born of woman, and so Froebel has provided for the education of the whole being of the child from its earliest conscious existence, carefully directing that in the earliest months only "clear impressions" shall be presented of objects, in order that afterward "clear ideas" may be formed. While yet in the arms of the loving mother or faithful nurse, the study of the new world into which the child has been ushered commences, and upon the wisdom and faithfulness of those in whose love and care it rests, will depend in a very great degree the quality of mind and heart, as well as the healthful growth of the body, of the child. That so large a portion of the children born die within the first few years, proves that neither parental love, or skill of doctors, or science of physiologists has been of avail to find out the true methods; for it seems an insult to our Father to believe that such hosts of children are born, at such a lavish expenditure of hopes and love, of pain and sorrow, only to wither and die. That so many children are imbecile, idiotic, or in any manner abnormal, is a stern fact, which proclaims that all the wisdom of the past has not sufficed to teach us how to rear sound minds in healthy bodies. Those whose eyes have been anointed are confident that in the system and methods of Froebel is contained a new element, a promise of "Paradise Regained."

The child is three years old, and it may now attend a Kindergarten; but we must, however, say here that the furniture and arrangements for a Kindergarten must have a special adaptation to this method of teaching.

The desks are covered with lines which make squares of an inch; this teaches the child to arrange his materials in an orderly manner, and, as rules, are given for each occupation; in a few days you will see the little three-year old as intently counting the squares, to know on which line to place his blocks or sticks, as if he had been born to do nothing else; this enables the child to comprehend direction; "up" and "down," "right" and "left," are illustrated by means of these squares.

"But do you teach such abstractions to a child of three years old?" perhaps you ask; "is it not cruel to compel such a mere baby to sit at a desk and learn things?" Were this a common primary school of the usual kind, this would be a pertinent inquiry, and it might, perhaps, come within the scope of the investigations of Mr. Bergh. But Freebel has found that, by combining knowing and doing, a very young child is made capable of receiving impressions, which become, by degrees, the basis of ideas, and the chasm from the unknown to the known, from concrete to the abstract, is bridged over successfully by the various occupations of the Kindergarten.

From the first happy hour that the child enters this "Paradise of Childhood," as the Kindergarten has justly been called, hands and brain, in work and play, preserve a happy equilibrium; and it becomes apparent to all who observe that many a law of high significance to the child's future development has become a part of his consciousness, and that, too, without any strain of the mind, any weariness of the body, but with only the joy which use gives in

the exercise of all the faculties given us by the Creator.

"How is all this accomplished?" do you inquire.

Your little pet of three years old, who has never passed a morning out of the light of his mother's eyes, has been deposited in the Kindergarten; the genial Kindergartener, whose skill has been attained through the teachings of her heart, whose tenderness thrills in her voice, and whose sincere love for childhood has led her to devote herself to this work, can not fail to attract the little one; and after the gentle murmur of subdued voices repeating the prayer to the "Father in heaven, who loves little children so well," followed by a little song or story, the day's lessons commence. "Lessons!" you say; "what lessons can be given to such a baby as our Tommy?"

Did you ever realize how much knowledge your child has mastered in the three years in which he has lived in our world?

He has learned to walk, to run, to climb; he has learned to judge very correctly of the qualities of many things, and attaches a value to apples and oranges in a direct proportion as to their size; he is quite an adept in natural history, knows most of the domestic animals, has learned to speak and understand the English language! and is withal an accomplished diplomat, and will "lobby" through a doubtful bill with a skill quite amazing and amusing to an impartial observer.

A card, with holes pricked at the distance of a quarter of an inch apart, is now given to the little one, with a thread of bright-colored worsted and a needle; he is shown how to put the needle back and forth so as to form straight lines in series; he is told that this is "perpendicular," and when this lesson, by frequent repetition, has been fully taken in, he is shown how to form "horizontal" lines, and before you are aware that he has learned any thing at the Kindergarten, he is using these terms intelligently in reference to objects around him.

At another hour a slate and pencil are given to the child, for the drawing lesson is in progress now. You will observe that the slate is ruled into squares of half an inch by lines cut in the surface of the slate, and here again "perpendicular" lines of one square's length are made. These lessons go on regularly, week after week, until lines of two, three, four, and five squares in length are made perfectly. This is the foundation for a system of drawing so beautiful in its self-developing character as to

seem to those who have observed it to be the only true method.

If you will look in on another day, you will find your child and his little companions happily occupied with two, three, four, or five, or perhaps ten, little smooth sticks, which they arrange, according to directions given, on the lines on their tables. When as much knowledge has been given as the young things may at once receive, permission is given to "invent" forms, and then each child starts off on its own hobby; the differences in the bent of each child commence to be seen whenever free invention is the order of the hour. The vivid imagination of the child will see a likeness to many things in the simple forms it can create from these few and simple materials; and I speak from a careful observation of children under both conditions, there is far greater pleasure to the child in this exercise of its inventive faculties, than can ever be obtained from the most elaborate toys, which are often broken by children simply from the desire for material to work out their own inventions with. But our careful Kindergartener is ever watchful, lest even this occupation, so light, and rendered so cheerful from the orderly interchange of opinions and ideas among these inventors, should overtask the little ones; and now, the luncheon, temptingly hidden in various tiny receptacles, awaits the busy little bees, and trooping they come; and, while the gentle and sympathetic care of the teacher makes an air of peace surround the little group, the luncheon is eaten, and rosy apple and golden orange, luscious grapes or juicy pear, with bread or its substitutes, forms a feast which seems a sort of angelic picnic; the happy, merry tones bear witness to the healthful effect of this social feature of the lunch together. Ab, well may it be if in the future banquets of maturer years such genial flow of soul refine the joys of the table, and make dining a feast of reason and a flow of soul! Lunch is over, the tiny baskets are emptied, the sense of satisfaction which is inspired by food eaten in due sesson and in social surroundings makes every one in good humor, and, the signal being given, the "ring" is formed, and one of the one hundred plays with the ball, which Froebel calls "the earliest friend of the child," is played to the rhythm of a song adapted to each play. The balls educate more than mere skill of hand. They are six in number, of the three primary and the three secondary colors. Froebel's directions are very precise as to the sequence in which these shall be used-a primary color should be followed by a

secondary color connecting it with another color-so careful has Froebel been in all that pertains to the education of the child; nothing so minute as to be unnoticed by him. Half an hour quickly passes, while "The ball comes round to meet us," or "My ball, I want to catch you," or the ever-favorite play of "Who'll buy eggs," are each played till each child has had a turn, after which more lessons follow. You would weary of reading, sooner than I of writing, if I were to describe "The Weaving," "The Building," "The Pricking," "The Peawork," "The Clay-modeling," "The Folding" lessons which fill out the attractive round of occupations; or of the object-lessons, which are given every week; of the knowledge of seeds and plants, which is imparted by sundry walks in autumn days to gather seeds of, perhaps, maple trees, which are planted in pots, and are actually growing before their sight; of the bulbs, which were first made the subject of an object-lesson before they were started; and of the daily mission of watering the plants, which is given to the children in turn; of the visits to the fernery, where our frogs are passing the winter in serene and safe retiracy; of the groups of embryo artists, who are engaged at some portions of the morning in "free-hand drawing" at the several blackboards. Indeed, I verily believe there is no limit to the delights of a true Kindergarten, kept according to the teaching of Froebel, by a teacher such as I have made my model in this letter. I must not forget to say here that every thing made by the children is set apart, from its first commencement, as a gift of love to "dear mamma," or "grandma," or "nurse," or some loved one; and one of the prettiest sights imaginable is to see these little midges carrying home their completed works of art—a folded leaf, a pricked card, or a weaving leaf. Froebel insists that the true way to teach generosity is by doing the generous deed.

I have been for the past six months a daily attendant on the Normal Training School for Kindergarteners. What I have in this imperfect sketch attempted to describe, I have daily seen and have been part of. I can not be considered as a youthful visionary—I am the mother of bearded men, and grandmother to several grandchildren, and I have constantly felt great regret that my practical acquaintance with Froebel's system came too late to be of avail in training my own children. My grandchildren, God willing, shall not lose some benefit from the late-acquired knowledge I have gained. If this statement of mine, which is a

hasty picture of what is the daily routine of Miss Kriege's Kindergarten, shall determine one mother only to seek such a school for her children, or inspire some young woman with a love for the work of a Kindergartener which shall induce her to study the method practically, I shall console myself for my inadequate description. I must run the risk of making my letter tediously long by continuing to say, that I do not think any person ought to attempt to teach a Kindergarten without a training under a skilled teacher. The system of Froebel is so beautifully developed, from its first principles, that a missing link would mar its harmonious completeness; and although for many years I had been interested in accounts of German Kindergartens, and had read with a strong predisposition in favor of the system all that I could find in English, I did not begin to understand the beauty of the theory, nor the happy adaptation of the methods, until I became a pupil at the training school.

And now—with one story of a dear little girl, not quite four years old, who entered the school last autumn, and who might have sat for the likeness of "Little Golden Hair" herself—I will close this long letter.

One day, after the "Building Lesson," the children were left to their own free inventions, and our dear little pet, Rose, built up her eight cubes into a form which, to her eyes, seemed a fitting monument, as she expressed herself, " to that good man, Froebel, who made so many beautiful things for little children to play with in the Kindergarten."

Dear little Rose! Like the woman in Scripture, whose gift of "two mites" has become, the world over, a synonym of generous devotion, so shall this lovely act of thy pure, loving heart be told wherever the name of Froebel shall come to be held as dearest to all lovers of childhood. Perhaps, in the true Kindergarten, beside the river which flows by the city of our God, hand in hand thou art wandering with the dear spirit who loved little children so dearly, and left such a record of his love for them.

How to Attain a Lofty Position in this Life.—By greatness and goodness together—as in men like Chalmers and Channing, among the preachers of this century, and others in every walk of art, and liteature, and life these combined together enable their possessor to touch the loftiest place on which a man can stand.—Robert Collyer.

The Treatment of the Insane Without Mechanical Restraints.

BY HENRY MAUDSLEY, M. D.

NOWARD the end of his life, the late Dr. Conolly was wont frequently to express his fear lest there might at some future time be a recurrence to the practice of using mechanical restraint in the treatment of the insane. cent events have shown that his apprehensions were not so vain as they then appeared. The injuries that have occurred to patients in some of our large asylums, have caused certain writers to hint doubts of the value of the socalled non-restraint system, while others have gone so far as to advocate openly the use of the strait-waistcoat. They would have us give up a system of treatment which has been considered by English alienists to be the great merit of English asylums, has hitherto been zealously defended by them against the attacks of foreigners, and has now become so general that there is hardly an asylum in England in which a strait-waistcoat would be found. I can not help thinking that those who contemplate such a retrograde step have failed entirely to grasp the principle upon which the non-restraint system is founded, and that in this matter they are very ill adapted to be public instructors. It seems proper that an earnest protest should at once be put on record against doctrines which I believe to be inhumane and unscientific, in order to prevent the harm which their adoption would in no long time most assuredly entail.

It would be an easy thing to fasten an insane person's limbs, so that he need not be much trouble to those who have the care of him; and, if that were proper treatment, not much skill would be required to carry it out. Attendants, for the most part, would be glad enough to have recourse to a measure which would obviate the necessity of patience, forbearance, and watchful supervision on their part. It might be no 'small relief, too, to the mind of the physician in charge of an asylum to know that a troublesome patient was effectually secured from doing harm to himself or others, and that he need feel no anxiety on account of the possible negligence or impatience of his The real question, however, is whether the patient would be a gainer by such a method of rendering bim harmless. Past experience certainly does not favor the opinion that he would, but, on the contrary, affords strong reasons to believe that he would suffer much injury without any compensating benefit. The system of mechanical restraint has had a full trial in this country, and in other countries, and whoseever may desire to see it tried again would do well, before giving utterance to his wish, to read carefully the accounts of the cruelties and horrors disclosed at the inquiries into the conditions of asylums at the beginning of this century. By its fruits let it be judged. And if the honest inquirer would have a personal experience of the soothing effects of mechanical restraint, let him try, on some warm summer's night, when tossing about restless and feverish from bodily or mental suffering, to go to sleep in a strait-waistcoat, with the sleeves of it tied together under his bed. If he were discovered in the morning, as most probably he would be, on the border of acute mania, or actually maniacal, he would furnish an apt illustration-of the effects of mechanical restraint in making madness. For it is most certain that the horrible type of furious mania, which was common enough in olden times, is seldom, if ever, met with in English asylums now, simply because the old system of restraint has been abolished. The yelling, and the howling, and the violence, which were thought to be inseparable from insanity, are not witnessed now in asylums, because the insane are not brutalized by degrading restraints. In fact, exhibitions of madness were then witnessed which are no longer to be found, because they were not the simple produce of malady, but of malady aggravated by mismanagement.

It should be borne clearly in mind that the abolition of mechanical restraint is not itself a principle, but a detail of practice founded on the principle which inspires what is called the non-restraint system. A very bad system of moral management might prevail where no actual corporeal restraint was used; and, on the other hand, it is possible, though not probable, that means of restraint might be used occasionally, and yet the management of patients be in other respects good. To scold, bully, or punish an insane patient would be almost as injurious to him, and certainly as contrary to the true principle of the non-restraint system, as to apply mechanical restraint. Experience proves most decidedly how beneficial is the influence of a good attendant, how pernicious is the influence of a bad attendant, on a patient suffering

from mental disorder; the patient will degenerate under the indifference and harsh usage of an ill-tempered person as plainly as he will improve under the sympathy and gentle behavior of a kind and considerate person. I have more than once known instances of patients who have, without exaggeration I may say, been cured by a judicious change of attendant. The greatest of difficulties, indeed, in the treatment of the insane is to obtain suitable persons to fill this trying and most responsible position. Qualities of head and heart are demanded such as would secure for their possessor higher remuneration and less onerous duties in a more eligible vocation. The accidents and injuries in asylums, which have lately excited so much attention, have indicated the weak point in asylum management—the want of a properly trained and high class of attendants, and of an adequate supervision of these immediate guardians of the insane by officers of a higher standing. It is to be feared that patients are in some instances left too much at the mercy of attendants. Now to leave an insane person at the mercy of a coarse, violent, and ignorant attendant, is to adopt the surest way of rendering him furious, unmanageable, and finally incurable. With his delusions of suspicion or fear he mingles inseparably the realities of the treatment to which he is subjected, and if this be at all harsh and unsympathetic, he naturally becomes furious, and resists it with all the energy of his freezy. His delusions are thus strengthened and fixed, whereas, by gentle usage and sympathetic attention, his confidence is gained, and they are gradually undermined. Angry usage, nay even an angry word, sometimes does incalculable mischief. It is easy to perceive that if a patient imagines himself to be in hell, or about to be murdered, and those around him to be devils or murderers, as happens now and then, he is not likely to be disabused of his morbid idea by devil-like treatment. The principle of the non-restraint system, in the true acceptation of the term, is, while avoiding a meddlesome interference, to make all the surroundings of the poor lunatic as tranquil, as orderly, as gentle as may be consistent with his proper care, to counteract the commotion in him by an absence of commotion in what is around him. The lunatic can not, any more than the sane person, resist the steady influence of his surroundings; he assimilates them unconsciously, and they modify his character for good or for evil.

How little a system of mechanical restraint fulfills the conditions of the just principle of

treatment is so plain that a wayfaring man, though a fool, can hardly fail to see it. An excited, active patient, urged by an uncontrollable instinct of movement, desiring and needing above all things freedom of limbs, is secured hand and foot by mechanical appliances; with what result? That he is provoked into a furious mania, expends his energy in shouting and raving, and becomes dirty in his habits; dirtiness in some shape is, in fact, unavoidable under such circumstances. But it may be argued, as it is sometimes argued, that it would be better for the patient to be so restrained mechanically than to be restrained by the efforts of attendants, who, in the excitement of struggling, are apt to overpass the limits of a temperate exercise of force, and to proceed to passionate acts of violence. No doubt, if it were necessary to have such struggles where restraint was not used, and not necessary to have them in order to apply restraint, there would be something to be said in favor of its use. But it is very seldom necessary to have a physical contest with a patient; indeed, if contests of this kind were of frequent occurrence, it would be strong evidence of a bad moral tone in the management, and of a neglect of proper medical treatment. If the whole treatment of acute insanity consisted, as some persons seem to imagine, in mastering the patient by physical force, and in endeavoring to stifle excitement by means of opium and other sedatives, there can be little doubt that violent struggles and restraint in some form or other would be found necessary. But if an indiscriminate use of sedatives be avoided, and a rational medical treatment be directed to the bodily disorder which will commonly be found to accompany mental derangement; and if, furthermore, the moral management be sympathetic and prudent, it will seldom be necessary to resort to physical violence.

Let it not be supposed, moreover, that the imposition of mechanical restraint does away with scenes of violence. Far from it; it eacourages them. Much violence must usually be used in order to apply the means of restraint, a desperate contest occurring before the patient is overpowered and left helpless, exhausted, and furious, with a bitter sense of degradation-Such struggles breed similar struggles, and the restraint used needs a frequent recurrence to it. There can be no greater fallacy than that of supposing what is called a moderate use of mechanical restraint to be consistent with a general plan of treatment, in other respects humane and beneficial. It must be dispensed with altogether, or deterioration will ensue in the patient, and all kinds of neglect and tyranny will be engendered by degrees, until restraints bebome the usual substitutes for forbearance and watchful attention. As one great argument against slavery was that it demoralized the slaveholder, so a very bad effect of the employment of restraint in dealing with the insane is that it demoralizes attendants. And on this ground, if there were no other grounds, it is necessary that the abolition of restraint should be absolute to be efficient; the principle of the non-restraint system will admit of no compromise.

·It must be allowed that when called to treat an acute case of ineanity in a private house, it s not always so easy to do without restraint as it is in an asylum, where there are suitable appliances for meeting the difficulties which the excitement and violence of a patient may present. But if a medical man finds it absolutely necessary to employ mechanical restraint, he should, if he has the welfare of his patient at heart, send him elsewhere; for either it is not a fit case for private treatment, or he is without the requisite assistance and qualifications for treating it properly. The attendants on whom he depends are probably ignorant and incompetent. If he has obtained them by application to some of those advertising institutions which profess to supply trained nurses, for all sorts of cases, knowing nothing himself of their character and attainments, the chances are great that they are of a very bad type, either having had no proper training, or having been discharged from asylums. It is within my knowledge that, in some instances, attendants discharged from asylums for negligence and illtreatment of patients have unhappily obtained employment, either directly from medical men, or indirectly through the medium of an advertising institution. One institution of this kind was, in fact, established by a discharged attendant, and was the refuge of a class of persons, some of whom, if they had found their right place in the world, would have found it on the treadmill. No wonder if mechanical restraint appear necessary where such persons get employment as attendants. They have done so, however; they are doing so still, and, it is to be feared, will continue to do so in the future. It would be a grievous error to accept the evil results flowing from their inhumanity or incompetency as evidence against the worth of an enlightened and humane practice.

It should be clearly understood by those who feel any doubt of the value of the non-restraint system, that although it is not fully adopted in foreign asylums, it has been warmly advocated by the most eminent foreign alienists who have witnessed it in operation in English asylums. Morel, of Rouen, after living some time in an English asylum, in order to make himself practically acquainted with its working, became, and has since been, one of its warmest supporters. The late Professor Griesinger, who, once an opponent of non-restraint, made a journey to England specially to examine into its merits and alleged demerits, became an earnest defender of it, and applied it with great success in the asylum connected with the Charité at Ber-Ludwig Meyer introduced it with the most beneficial results into the asylum at Hamburg, over which he formerly presided. Others have followed, and are following, in the wake of these distinguished men. With such testimony coming from abroad, it is somewhat sad to find that doubts should arise in the country in which the non-restraint system had its birth, and has attained its fullest development. I can not think that, in face of the irrefutable evidence of experience, they will have a long vitality, and I certainly do not hesitate to express a strong personal conviction that the use of mechanical restraint in any asylum, public or private, is an indication of a badly managed institution, and that its use, in the treatment of private cases, is unnecessary and prejudicial. Where it is entirely dispensed with there will be less excitement, fewer scenes of violence, less need of secluding patients, and earlier and more numerous recoveries, than where it is in use. For it is not only an evil itself, but it is the fruitful parent of a multitude of ills, not the least of which is the certain deterioration of all who have any part in its employment, whether suffering or doing.

GREATNESS AND GOODNESS .- It is not possible for us to make our children great, but we can all do a great deal toward making them good. Great influences that we can not understand, stretching over the whole span of our life, will make one man as great as a Mariposa redwood, and another as small as a dwarf pear. Yet this, in its degree shall be as good as that, while the sun will shine, and the rain fall, and the blessing of heaven rest on both But the possibility is that the little one may become not only good, but great. Goodness of itself may be greatness, as it was in Washington and Lincoln; or there may be greatness without goodness, as the vast catalogue of mighty men who have been the scourge and curse of the race can testify .- Robert Collyer.

Florida as a Winter Residence.*

BY LEDYARD BILL.

of any portion of the United States, and is the most tropical in character. Reaching almost to the tropical zone, and extending up to the thirty-first degree of latitude, its entire coast-lines are bathed by the warm waters of the surrounding seas; while the gentle tradewinds cool and purify its atmosphere, making the peninsula, as a place of residence, both healthful and delightful.

Invalids have long sought this portion of the Union; and its general reputation has steadily increased, till now scores and hundreds annually migrate to some point in the State, as their predilections seemed to favor; but as a rule a majority of them remain upon the St. John's River and its tributaries, or else upon the Atlantic coast at St. Augustine and the Indian River country, which is an extensive inlet running very near and quite parallel to the seacoast at the central portion. The story was everywhere current along the river, that full fifty thousand people had, this last season, visited Florida. This, of course, included all classes; but we can scarce credit so large a statement, and if we cut it down one-half, then the statement may be taken with some allowance for interested motives. There is no denying, however, that great numbers have visited the State within the winter 1869 and '69. The chief hotel in Charleston, S. C., the Charleston House, was kept crowded to its utmost capacity during the winter by this Florida travel. It may not be too much to say, that nine-tenths of all the arrivals at that house were on their way to or from that State. We mention this as indicative of the growing and already great importance of the question as to the effects of the climate upon invalids, and those who seek rest and recuperation from the steady and exacting demands of business. There is needed among those who fill the various professions more of rest and play than they get.

It is this overworked class, as well as the invalid, who need to go to Florida. For the

THE location of Florida is the most southern | former, it is just the place in which to spend a winter; there is no doubt in our minds of the benefit they would derive by a few months residence in that climate. Then there are the weak and nervous-those whom care and anxiety have broken down, and who now need. above all things, a change of scene, and a quiet life away from their former surroundings. With a new diet and a desing climate they will rapidly recover. These, therefore, need not hesitate to pack their trunks and start for Florida. We know of no place equal to it for persons thus afflicted; all improve under the influence of this warm and genial climate, where a comparatively even temperature is maintained, and where the rule is cool nights, in which sleep, the sweet restorer, comes with so many blessings to the fevered and fretful invalid, and the overworked. No physician is so skillful, or remedy so marvelous in restorative power, as sleep. This the resident of Florida may more easily obtain than in any other climate of which we have any knowledge. The winters are not so cold as to freeze during the night, or to necessitate artificial, over-heated air in the dwellings, rendered often quite impure by this furnace system so general in the North during the cold season; nor are the summers so sultry and heated as to deprive you of rest, as is the case in the severest hot weather in nearly every other portion of the country. The thermometer never settles as low, or rises as high, as at any point between this State and Canada. lowest point reached in winter is seldom below thirty degrees, while in midsummer it rarely exceeds ninety-five degrees—the average being, for the three summer months, about eighty degrees. In New York, Boston, or Montreal, every summer carries the thermometer to a greater The earliest frost recorded occurred on the 27th October, in 1857; and the latest frost was in February (the 14th), 1859. frosts usually occur in January, when ice is formed in pools of water or buckets, if left exposed. Since 1835, no very destructive periods of cold weather have been experienced; then it was cold. People who were living in the State at that time speak of it as a severe cold snap, reminding them of Northern latitudes. vines, and shrubs, and orange trees, with many

^{*}Those who desire to know more about Florida will do well to read Mr. Bill's charming work entitled "A Winter in Florida." A new elition, enlarged, has just been issued by Wood & Holbrook, Publishers of this Journal. Price \$1 50.

other kinds of trees, were quite annihilated; and what are now seen have been either grown from the seed, or are sprouts from the old stumps of the frost-killed trees.

It is the severe and sudden changes in temperature at the North that do the injury to enfeebled constitutions. One day in winter it is quite mild and pleasant; while the next morning it is so dreadfully cold that the going out of doors is a trial to the able-bodied, and a severe shock to those lacking in vitality. The spring is even worse than the winter; for while the latter, though cold, has a dry atmosphere for the most part, the former is piercing, cold, and wet, and miserably coquetting, with all degrees of temperature in a single day. Spring has, in fact, got to be, if, indeed, it has not always been considered in most of the Northern States, worse for all kinds of invalids than any other season of the year; and where the east winds prevail at this season, the mortality-list exceeds, for March, April, and May, that of all the balance of the year. An escape from these months to a more equable climate is, to the invalid afflicted with pulmonary difficulties, a vital one.

A continuous, steady cold, dry climate, or an even warm one, is the most to be desired for a majority of the suffering and afflicted of our Florida and Minnesota are the two points which most nearly represent these conditions. They have been frequently contrasted, and, like every other subject, each has its special advocates. We shall not even pretend to decide between them, for undoubtedly both are beneficial as a resort; but to determine which of the two is the better adapted to benefit certain cases is beyond possibility, since they differ in many particulars; that is for the family physician to decide, who should know the constitution and habits of his patient, and whose counsel should always be weighed in all matters of this kind. Only general hints can be given, and each is to determine for himself between the one and the other, or whether remaining quietly at home may not be best. When patients are so debilitated as to make traveling a trial and a burden, they should remain at home, where their nearest friends may watch and tend them; but in the incipient stages of tubercular formation, with a judicious change of residence and a nutritious diet, coupled with great care, the disease may be arrested, especially if resort is had to gentle exercise in the open air. Northern latitudes admit of exposure to the weather only during the summer season, and herein lies the great advantage of a

residence in Florida. We met at St. Augustine a lady from Syracuse afflicted with pulmonary disease—we should judge it was constitutional in her case. She stated she had been unable to go out of doors during the cold and wet weather of the preceding winter, at her home, but had not failed to walk out daily (except it was raining) during the whole winter in Florida. She had at first, in coming into the State, spent several weeks on the St. John's River, and then took up her residence at St. Augustine. This was undoubtedly a very judicious plan; for the climate of the river differs materially from that of St. Augustine, on the sea-coast. The former is milder and more gentle; and the patient suffering with disease of the lungs would do well to remain on the river for awhile, and the climate of St. Augustine, with its sea-breeze acting as a mild tonic, braces up the system.

The whole peninsula is in the range of the trade-winds, and is swept by them daily, rendering it as cool and pleasant as one could ask.

Sufferers from nervous prostration and general debility need not delay their visit to St. Augustine for any reason above given, since they would probably experience as great benefit at the outset as at any subsequent period of their sojourn.

People usually do not go to Florida before early in November, though they might leave home at an earlier date, making tarries on their way; but, if they reach the State by that time, they will not have gone wrong. They can remain until the first of May, when it is safe to return to the Northern States.

We speak in reference to invalids, of course. Pleasure-seekers, or those in health, may visit Florida, and the next week take a sleigh-ride among the hills of New England with impunity, perhaps. There are those from the North, both invalids and others, who make Florida their home the year round; and they speak in the very highest praise of the climate during the summer, declaring they do not suffer with the heat as much as they formerly did at home, and that the benefit derived from a residence is increased by remaining. This may be true in some cases, whereas it might be too debilitating in others: not from the great rise in the thermometer, but from the long continuation of hot weather. It commences to be warm in April. We have seen the thermometer in the early portion of that month as high as eighty degrees in the shade at 2 r. m. True, that was exceptionable; but it was warm weather at midday through the half of that month; and to continue this temperature on to October makes

a long season of summer weather, which might be objectionable in some instances.

There are those who assert the climate of Florida to be proved, from statistics, to stand at the lowest rates of mortality. From the census report of 1860, we find the average number of deaths from consumption, in various States, to be:

One in 254 in Massachusetts. One in 473 in New York. One in 757 in Virginia. One in 1139 in Minnesota. One in 1447 in Florida.

This table certainly speaks very highly in favor of the climate for this class of diseases. It is not impossible, however, that the returns may have been less perfect for Florida than those of other States, owing to the sparseness of population, and the inferior facilities for obtaining exact data.

None need expect that every winter day in Florida will be like a selected day in May or September at the North. There will be cool and cloudy days; there will be occasional rainy

days, though the winter months are usually very free from rain. The rainy season is in the summer; and of these months August is usually prolific in heavy falls of water. In most countries where they have what is denominated the wet season, this occurs in the winter or spring months, leaving the summers, when vegetation needs rain most, very dry, and trying to the crops; whereas in Florida this is reversed, and in the hot weather the heaviest rains fall.

The mild atmosphere of winter, which permits so much life in the open air; the seabreezes from the ocean on the one side and the gulf on the other; the mode of living without air-tight stoves and hot-air furnaces, but with ample ventilation in, around, and under their dwellings, which have no cellars, and usually stand on posts a couple of feet from the surface—to these things may be ascribed the freedom from lung complaints, though the character of the soil itself greatly contributes to the absence of this disease, by its loose, andy nature quickly absorbing moisture, and yet being most of the time warm and comparatively dry.

How to Treat the Sick.

THE KINGDOM OF INVALIDISM, AND THE WAY OUT OF IT .- Life hath many kingdoms, each imperium in imperio-"a world unto itself" ---bound by its own laws, and subject to its own customs. The kingdom of infancy and childhood, whose ways seem laid from the foundation of the world, and change not withal; the kingdom of youth and pleasantness, the kingdom of middle age, and the kingdom of old age; each, in its turn, solving the other's problem, while we pass—as inevitably we must—out of the one mystery into the other, on our way from the cradle to the grave. Within these are other kingdoms, into which we go at will, or drift by chance, even as we take hold of life, with intuition or at random. There is a kingdom of companionship, and a kingdom of aloneness; there is a kingdom of peace, and a kingdom of unrest; there is a kingdom of muscle and vigorous action, and there is a kingdom of limp and chronic invalidism. It is of the last that we would speak, for it is a strange world, this Kingdom of Invalidism. Its ways are marvelous and its laws inexorable. Once within the fatal limits, you are a prisoner, and the chances are that you will be a slave. The Prince of the Kingdom has power to bind you fast, and it rests greatly within one's self as to whether it shall be for ever.

Perhaps nothing can be more remote from the conception of healthy and vigorous persons than the actual, every-day life of a chronic invalid. It is like Greek to the uninstructed, a jargon of unintelligence, which they neither heed nor understand. If they think of it all, it is usually to measure it by some remembrance of their own, when they were "sick and got well," which was, in reality, "a beautiful

time;" for, when one is "in it," there can hardly be a more delightful experience than a genuine convalescence. It is like the joy of the spring-time, and the wonder is that it has remained so long unsung. To be brought safely out of the depths of a dangerous illness, and find one's self the first thought in a loving household, the central point upon which turns the daily routine, is inspiriting to one's self-esteem, but it is only a beginning. It is the building-up process that brings the thrill and the gladness. The newness of strength and fresh sense of power in one's self, which moves you and grows in you from day to day, is something you have never felt before and may never again. The light-heartedness that comes from the falling off of any benumbing weight, be it physical or mental, is yours in double measure. You are in the Kingdom of Hope, and the world is baptized afresh. Flowers blossom with new beauty, birds sing with new songs, the sun rises in the east and brings you strength and healing; .every thing is on the side of brightness, and you feel like a young Jupiter, with a universe to wait upon you. When the glamour falls off, as it will, as reconstruction becomes complete, and you a common, healthy mortal once more, you take up your burden of life with a new era to date from, for you have had something that you will not soon forget.

But we are fearfully and wonderfully made, and "eternal vigilance is the price of peace." Descended from a pork-eating, spirit-loving, or otherwise perverted ancestry, what hereditary demon waits within to be developed we can not know until the curse comes. At best, the way through the Kingdom of Health is straight and narrow, while that which leads near the boundaries of Invalidism is broad and easy, and many there be that go down thereat. The dividing line you may not trace, but let it once be passed, and let it be acknowledged that your sickness, instead of being unto death, is likely to be unto years of continuance, and a curious change comes over the relation of things. From the center of consideration you pass, at once, to the outer line. You are in a new atmosphere, your very hopes and fears are different. It is a new outlook from a new standpoint, but the revolution has been so instantaneous and so peaceful that, at first, you can only wonder. How exquisitely serene the household has become, and how remarkably cheerful the people are! With what wondrous fortitude they resign you to your fate, and how they spin off to lecture and opera with their "noses in the air!" Oh, the weary, weary invalid hours, and oh, the strong people! How they go about upon the face of the earth, confident, secure, and unshaken! How they do go, swinging and tilting along, with nerves attuned in harmony with sky, wind, and weather, and hearts singing for the joy of it! Oh, the "sweetness and light" of being well! Oh, the divinity of perfect health, and the resources it holds! One needs to be a chronic invalid to feel it all.

A purified and exalted mind is very often accorded to those who are lingering here with near prospect of death. Compensation for daily suffering and failing strength is found in the reach of blessed thoughts and hopes that are the portion only of those who, slowly and surely, are nearing, day by day, the brink of the beautiful river. But to that class of sufferers, who must look forward to years of inaction, there is no outlet, not even the quiet one A buried-alive feeling imparts to of dying. their life a tinge of horror, for the reason that mind and heart do not yield at once, and the strife of healthy thoughts against unhealthy conditions, is like the struggles of a living man in a closed tomb. To be in the world, yet not of it-

"Amid the Muses, deaf and dumb;

Amid the gladiators, halt and numb,"

seems, at times, a fate worse than death, inasmuch as it is, in one sense, death, without the letting go of mortal worries, which we have been taught to consider the special and blessed privilege of the grave.

The weakly one in the household who monopolises the most comfortable lounge, or drops into the nearest rocking-chair, and who seems so provokingly whimsical, because, perhaps,

she has not strength, as others have, to independently carry out her own whims-it is a rare case if such an one enjoys being a burden. It is a rare case if she has not longed in her inmost soul to do as others do, know as they know, accomplish as they accomplish, and feel the bounding independence that belongs to the caring for one's self-but oh, the deranged nerves, the confused brain, the feeble knees, and nerveless hand! It is an agony that the strong and courageous know nothing of, but which they help make more hopeless by their very deportment. Every thing is against the chronic invalid. A writer-and she spoke with authority-has said: "Once an admitted invalid, and the dikes are down." The Prince of the Kingdom, after his first grand conquest, which is the will of his victim, has things his own way, with half the world for his helpers. We once heard a good physician exhorting a young lady-patient to "be cheerful," "Oh, Doctor," was the sobbing reply, "I do try, but there is no cheerfulness. It seems as if there was a grand combination to take all freshness out of my life."

"Oh no, no," said he; "no 'combination.'
It is only the natural way of things."

It is the "natural way" of taking for granted that the world has that bears down so inexorably upon the weakened will of the daily sufferer. Their attention is forced inward upon themselves; they feed upon their own life, breathe their own breath over again, and see their own wan faces reflected back upon every An ignoble suffering is very different from that which elevates, and calls for a power of endurance without the compensation which makes heroism sublime. Under a pressure so constantly wearing and infinitely pitiful, what wonder is it if they fail to see things in their true light, and that which was lovely and of good report turns to peevish ways and morbid feeling?

It is well when morbidness comes to constitute a disease of itself. A physician, on the principle that "like cures like," raised a bedridden invalid to robust health, simply by rousing the brain in a variety of innocent and exhilarating ways. The discord in the body he acted upon the soul, and, by creating pleasan ness in the soul, it gave back its God-like r venge upon the body. It is to be regretted the so few physicians possess this rare insight.

The moral of this chronicle of endurances i that the way out lies within yourself, and more or less hopeful, according to your cond tions. Begin by ignoring the doctrine of resignation, until convinced that you need it; la hold of whatever is bright, sweet, and fresh pray as for your life, remembering the whil "that nothing is e'er on man bestowed, unless for it he feels necessity. Deep within his son a yearning must arise for the contentment which it strives to win." This stronghold gained and whatsoever is possible in the way of attaining may be yours.

H. G. ATWELL.

BRE STINGS.—No outward application can have any effect in curing the sting of a bes, although every body has some remedy that is instantaneous relief. You can not go amis should you apply in every instance the first thing you lay your hands on. A list of remedies we have heard of would fill the "Annals of Bee Culture," and should you try them all you would find all of them equally efficient. All that can be done when you are stung is to carefully extract the sting, which should not be done by taking hold of it with the fingers, as the poison sac at the root of the sting would thus be discharged into the wound.

It is better to remove it with the edge of a knife, or, if none is convenient, then with the finger-nail. The swelling may be partially prevented, or even nearly removed after it takes place, by rubbing with the hand, being careful to rub in the direction of the heart, as by the means the poison may be thrown into the circulation, and distributed through the system without injury.—Scientific American.

THE HARVEST IN Germany this year has been mostly gathered by the women, assiste by the men too old to join the army and child dren.

EDITORIAL DEPARTMENT.



NEW YORK, DECEMBER, 1870.

WATER.

"To the days of the aged it addeth length; To the might of the strong it addeth strength; It freshens the heart, it brightens the sight; 'Tis like quasting a goblet of morning light.'

THE PUBLISHERS do not hold themselves as indorsing every article which may appear in THE HERALD.
They will allow the largest liberty of expression, believing that by so doing this magasine will prove to be more useful and acceptable to its patrons.

Exchanges are at liberty to copy from this magazine by giving due credit to The Herald of Health and Journal of Physical Culture.

TOPICS OF THE MONTH.

BY M. L. HOLBROOK, M. D., EDITOR.

THE OLD AND THE New.—The date of this number reminds us that in a few short days the year 1870, which so recently opened its portals to our view, promising so much to us, will be for ever passed away. We are called upon to smoothe back its white locks and give a last parting caress. We are sorry to have it go, and would cling to it still; but God has ordained that every good gift must have its use and give way to another. The old shall pass on, and the new shall for ever take its place, and we must not complain.

Indeed, we are rather glad that it is so. The old year has brought us much to prize. The

golden harvests and the rich fruits, the material prosperity and the progress of 1870, are not to be despised. We can not object much to its earthquakes, though its floods, its thunder and lightning, and its tornadoes have been rather severe in some places, and have brought poverty to many a home, and sadness to many a heart. But the chief charge we have to bring against the year, is that it has brought to us the terrible war. For this it will for ever stand remembered in history. But for this its scroll might have been untarnished, except by here and there a scratch. But for this it might have been swept into eternity so quietly as to have been almost unnoticed and unknown. Yes, let the old year go, and if the new year, by any law of hereditary descent, inherits any of its follies, may it soon outgrow them, and stand fair and beautiful upon the field of time.

And when the old year has breathed its last, why not let die with it all that is bad and mean. Let intemperance give up the ghost. Let sickness, poverty, and crime cease. Let bad men turn to good ones, and good ones become better. Let folly and vice and sensuality hide their heads, and let the new year be born so beautiful, so strong, so full of hope, that the world shall rejoice with joy unspeakable.

With the old year THE HERALD OF HEALTH for 1870 finishes up its work gloriously, and prepares to begin again its career as an earnest preacher and teacher. It will not be content with constantly repeating itself, but will develop fresh and rich fields of thought for 1871. We have already announced a series of papers entitled "A New Discussion of Temperance-Problems," two installments of which have already appeared. This series promises to be one of unusual interest. A number of articles by well-known female authors will give the woman side of the question ample discussion before the close of the year.

The following are some remaining topics of this series:

- Effects of Intoxicating Drinks on the Faculties of the Mind.
- 2. Its Effects on Marriage and Offspring.
- 3. Its Effects on Religion.
- 4. Its Effects on Literature.
- if Effects on National Integrity (including Politics).
- 6. Moderate Drinking.
- 7. The Wine Question.
- 8. Mistakes of Temperance Reformers.
- 9. Total Abstinence.
- 10. Alcoholic Medication.
- Relation of the Use of Intoxicating Drinks to Poverty and Crime.
- 12. Restricting the Sale of Alcoholic Beverages.
- 13. Ministers and the Temperance Reform.
- How Best to Promote the Cause of Temperance.

Then we are to have the following papers from our esteemed contributor, Rev. Charles H. Brigham, all treated from the standpoint of health and its hygienic bearings—namely:

- 1. Wholesome Houses.
- 2. Habits of Study.
- 3. School-houses.
- 4. Railway Traveling.
- 5. Town and Country Life.
- 6. Summer Resorts.
- 7. Long Journeys.
- 8. Variety of Work and Occupation.
- 9. Home Life.
- 10. Amusements.
- 11. Early and Late Hours.
- 12. Old Age.

The rich stores of wisdom and learning which Mr. Brigham will bring to bear upon these topics will give them great value.

There is another subject of interest to our readers which will be carefully discussed in The Herald next year—we mean the subject of Longevity. The length of life attained by the race is much less than it might be. To give light on this subject, we shall print during the year a most remarkable and intensely interesting

prize essay, entitled "Comparative Longevity of Man and the Lower Animals," by E. Ray Lankester, B.A., Junior Student of Christ's College, Oxford: The style and matter of this essay can hardly be surpassed. It alone, or either of the series of papers we have announced, would in book form cost not less than a dollar and a half, and all of them cover ground not before gone over in our monthly.

Then we are to have "Extracts from the Diary of a Physician's Wife," by Mrs. H. C. Birdsall, whose recent articles on training children have appeared in our journal. These papers will embody much wisdom on matters of home life, and show how most of the troubles and trials that breed in the domestic circle may be avoided.

We shall also have papers regularly from Mr. Beecher, as heretofore, and from many other writers, on topics of Health and Physical Culture, so as to make our monthly for 1871 a volume of more than ordinary interest, both to those who are sick and those who are well. Indeed, with the new year this monthly renews its life and vigor. Then may we not hope that every present reader will help to extend its circulation, that the lessons we teach may be heard by a still larger number, so that, as the years come and go, new hearts may be quickened into beauty and life.

THE STRUGGLE FOR DAILY BREAD.—Our talented contributor, Mrs. Lydia F. Fowler, is still lecturing in England, where she and her husband have been for so many years. A friend has sent us a brief notice of one of her lectures entitled, "The Struggle for Daily Bread." Though not so applicable in America as in England, yet it contains hints on why some people do not succeed in the world, which will be found of peculiar interest:

"Every one, she said, should be happy, and have an abundance of this world's blessings. The world should be a paradise instead of a desert or howling wilderness, with only a few cases, and every human being should be happy and contented. But, she asked, what are the

facts? Let them go into a thoroughfare of our town, and what did they see in the living masses that walked along the streets: Squalid poverty, ragged, dirty children with unkempt hair; haggard, starving women trying hard to keep soul and body together; men out of employment discontented, intoxicated, perhaps, making futile attempts to earn a livelihood. Then, if they emerged from the lower strata, and observed those who had trod in the paths of science, art, and literature, they felt that the world was full of disappointed beings. If such a condition of things were true, there must, she proceeded to say, be some causes adequate to produce it, and she then went on to point out some of these causes. In the first place, many people were born just one hundred years before the world wanted them. They had overleaped the present century, and manifested the maturity of mind of the far off ages to come. The moral to be drawn from this, especially in regard to poets, was that people should not write poetry unless they had enough means otherwise to keep soul and body together, as-and it was a fast that the world did not foster the bud of genius -it was only when the flower shone out without a flaw that it was appreciated. Another cause of this struggling for daily bread was that some people were either too ethereal or not sufficiently practical to prosper in this practical world. Then there were some who ought not to have been born at all so far as practical efforts were concerned, for they never could earn their own living independently of others; and some were too ambitious, and aspired to do what they were unfit by nature to do. Napoleon the Third was very anxious and desired to go to Berlin (laughter), but, she observed, it would not do to prognosticate till the end came. Some, again, wanted to begin where others left off, as was the case with the nephew whose uncle by hard work had made himself a rich man, and who, wanting to begin where his uncle left off, wondered that he did not succeed. Further, some people were surrounded by circumstances that seemed for a time to prevent them from finding success. Plato had said that a man

must make a name and earn a monument, but while he was making that name and earning that monument he often almost starved. Another cause was that some were lacking in perseverance, and when they once failed they were discouraged. Some, again, were too theoretical; some were one-idead; some, like Goldsmith, were more generous in spirit than they had wealth in their pockets to meet their generosity. Then some never did their work well; some had feeble bodies and weak organizations; and, in the case of others, their parents had made a mistake early in their life; but the cause, the principal cause, of their workhouses being filled to overflowing was to be traced to drink."

We apprehend that the last cause—namely, drink, brings about more failures than all other causes combined.

DRUNKENNESS IN HIGH PLACES—TEM-PERANCE THE SURE ROAD TO HAPPINESS.—A subscriber to our monthly, residing in Canada, sends us the following startling evidence that temperance in all things is the only safe course to happiness and good health. We hope others of the human family will, like him, at last get their "mental eyes opened through" the facts we monthly present to them, and act accordingly.

"To the Editor—In your 'Notices of New Publications' for August, 1870 (A Physician's Problems), your remarks regarding hereditary taint are eternal truths, and as I believe I am one out of millions of hereditary victims, I will say a few words regarding myself, hoping not to intrude on your valuable time.

"I am a Scotchman; I was 15 years of age before I could repeat the alphabet; I have been upward of twenty-five years a drunkard, and a confirmed smoker and chewer of tobacco, but threw away rum and tobacco for ever since 1868 (the year I subscribed to The Herald of Health); since that time I have struggled manfully, and, thank God and your journal, I am keeping on the straight path, and leaving the broad way of slavery to rum and tobacco

far behind me. I may here state that my father and mother were both drunkards; my first cousin, Sir John A. Macdonald, now at the head of the Canadian Government, is a drunkard; and I believe my grandfather was a drunkard, that is by my father's side. My father left me the curse of poverty, caused through drunkenness. My uncle, Sir John's father, educated his family; but the only education I ever received was having my mental eyes opened by reading The Herald of Health. Such is hereditary taint."

EXPERIENCE OF A FORMER MEAT-EATER. -" To the Editor of THE HEBALD OF HEALTH: I was never so well pleased with a book or paper as I am with your publication. It is almost like a ray of sunshine in the household, brightening and improving every thing. amused, in perusing the August number, to see your remarks on 'Animal Food and Grease.' The man who had lived thirty-five years on a fruit and vegetable diet, had more experience in that line than either myself or The Church Union, and consequently we should both be humble in his presence. I have been living for two years a strict vegetarian. I have not even tasted meat. Once, I remember, after I had been living in this way six months, I tasted meat gravy, and afterward ate a hearty dinner, but had barely finished the meal when I threw all up again. I never tried it again. When I changed my style of life I was in a declining state of health, was troubled with canker in the mouth, and scrofula, nervousness, etc.; could barely lift one hundred and fifty pounds, and got tired very quickly. Now, I am a strong, hearty fellow, eating my two meals a day of fruit and vegetables, and apparently free from any sort of disease whatever. I can lift three hundred and fifty pounds with ease. and stand as much exertion as any one of my size. I shall never eat meat or flesh again, unless forced to, as I think flesh food, eggs, strong drink, and white-flour bread, the curse of the world. I was a thin, spare fellow, but am now becoming a heavy, solid man. Strange to say,

on weighing myself to day, I find I have gained thirteen pounds in weight within a month. I happened to prove the scales at both weighings, and kept a careful record. What will The Church Union say to this? I am confident that nine-tenths of the world do not know the benefits to be derived from living in this way.

"Yours truly,

"JOHN F. CHANDLER."

BEE-KEEPING.—The fear of being stung deters many from bee-keeping. This is excusable in those whose peculiar physical organization is such that much pain and inflammation result; but such are in the minority. The danger of being stung is not so great as is generally supposed. The bees seem to know the timid, while those who approach and handle them with courage, carelessness, and contidence, can go among them without annoyance. It may be an annoyance to the novice to be stung. from the pain and swelling, but in a few seasons the system will become so accustomed to the poison that but slight swelling and no pain will result. The pain is more in the imagination than reality, and the sooner the beginner becomes so self-possessed as to receive the sting of a bee as he would the scratch of a brier, the sooner he will succeed as an apiculturalist, for if he is for ever in terror cf his bees he will not give them the attention they need, and will never attain the best results .- Sci. American.

A WORD ABOUT VINEGAR.—The principal ingredient of vinegar, and that which gives it its strength, is acetic acid, of which strong vinegar contains about five per cent. In a pure state this acid is colorless, inflammable, volatile, exceedingly (pungent, intensely sour and acid to the taste, and evaporates if exposed to the air. In experiments upon rabbits, it has been found that one ounce of acetic acid will kill a large, healthy rabbit in seven minutes, and, on examining the intestines, they were found softened and highly inflamed. When applied to delicate, sensitive tissues in man, it is very

irritating and almost a caustic. Galen was of the opinion that vinegar seriously injured the nervous system and impoverished the blood. According to Margagin it occasions thickening of the walls of the stomach. Portal relates a case, in The London Medical Gazette, of a young woman who was very stout, and was advised to drink a small quantity of vinegar daily to reduce her size. It worked to a charm for this purpose, but in a month brought on cough, difficult breathing, fever, wasting away, and death by consumption. German quacks are said to profess to cure obesity by means of daily doses of vinegar, and, if they sometimes fulfilled their promises, it was usually at the expense of their patients' lives. Sunderlin says that those who work in vinegar factories soon acquire a cachectic look and become consumptive. Orfila relates the case of a patient who swallowed a teaspoonful of acetic acid. He shricked with pain, his mouth was whitened, there was a burning pain in the throat, chest, and abdomen, profuse sweating; diarrhea and vomiting occurred, and the pulse became small and quick. All these symptoms are those of poisoning. All modern writers agree in this: that vinegar is to be avoided where the digestion is weak, or where there is a tendency to flatulence or diarrhea. Chlorotic females are forbidden to use it, even though they long for it, and nursing mothers are advised to refrain from its use, as it often occasions fatal diarrhea in infants by acidifying the milk, which otherwise would nourish. As an article of diet it is of doubtful utility, especially when other and better organic acids may be used in place of it, when acids are needful.

DEATHS OF CHILDREN IN LONDON.—During the months of July, August, and September there were 18,816 deaths in London. One-third of these were under one year old, and one-half were under five years old. Only 570 were over eighty years of age. The population of this great metropolis is 3,200,000, more people than ought ever to live in one city. The mortuary report of a city of much smaller size in

the United States—we mean San Francisco—is not much better. Here about 40 per cent. of the children die before they are five years old. In commenting on this The Woman's Journal of San Francisco thus sharply remarks:

"If stock-raisers were no more successful in rearing brutes than are parents in raising children, they would soon become bankrupt. If beautiful and healthy children, at the age of fifteen years, should command a high moneypremium from society or the State, or if families rearing children without loss, and at the same time possessing health and beauty, should be entitled to honors and pecuniary rewards, it is very problematical if the present system of slaughtering animals would long continue. Money considerations would prompt the discovery of laws, and lead to the adoption of proper food, clothing, exercise, and habits favoring health, development, symmetry of form, beauty of feature, and longevity, that parental affection, unstimulated by objective influences. would be slow to understand or adopt. Great is the almighty dollar!"

DRESS REFORM—The friends of dress reform held their third picnic at Emerald Lake, South Newbury, Ohio, on the 7th instant, Mrs. Dr. Organ delivering an able address. We have not space for a report of the proceedings, but are assured that every thing passed off pleasantly and profitably.

AN ATHLETE—Donald Dinnie, the Scottish champion athlete, who is now in America, commenced his career as an athlete at the age of nineteen. He is 6 feet and 1 inch in hight, weighs 210 pounds, and is $46\frac{1}{2}$ inches around the chest. He has taken over 1500 prizes, 62 silver medals, and 1 gold medal.

How the Prussians try to Avoid Death.—Many of the Prussian soldiers wear underneath their shirts a piece of sole-leather about ten inches square, which is hard enough to turn a bullet, unless struck perpendicularly, and is a good defense against the lance or the saber.

ANSWERS TO CORRESPONDENTS.

BY A. L. WOOD, M. D.

Psoriasis.—"I decidedly agree with you in your remarks about vaccination in the November number. I am a victim to its baneful results. As you must have some knowledge of these matters, can you tell me what is best for me to do. I am troubled with what is known as psoriasis, and I am satisfied it resulted from vaccination. Do you know any remedy?"

The Turkish bath is the remedy for this disease, as well as for diseases of the skin generally. If the Turkish bath can not be obtained, the vapor bath, or the wet-sheet pack should be substituted. A few baths will usually produce a great change, and, if continued daily, will eradicate it from the system in a short time. The patient should at the same time confine himself to a bread, fruit, and vegetable diet, and abstain wholly from stimulants and irritants.

Hygienic Beds.—" Of what material should a bed be made to be hygienically unexceptionable?"

Good, clean, fresh husks and oat-straw make excellent beds. Curled hair is good, and the patent prepared sponge is, so far as I am aware, wholly unexceptionable, and is, perhaps, the most desirable material in use.

Climate and Health.—"Is it possible in a sickly region—say a miasmatic one, like the swamps of the Southwest, or a moist one, with a very variable temperature, like New England, even by the strictest observance of hygienic laws in the rearing of children—for them to attain to the physical and intellectual robustness they would, under like conditions, in a very healthy region, as California or the plateaus of the Alleganies?

"Does not a moist, miasmatic, and variable climate render it more difficult to live correctly, on account of the relaxing influence upon the nervous system, and consequent weakening of the powers of volition? For instance, other things being equal, would it not be easier for an individual to refrain from drunkenness in a dry, equable, and salubrious climate than in one the opposite in these respects?"

It is self-evident that, other conditions being equal the healthier the climate the stronger the people, both physically and intellectually. I answer the last question in the affirmative.

Apples and Salt-Rheum.—"For several years past I have found that when I eat apples for a few successive days I am troubled with the salt-rheum. How do you account for this when fruit is so generally recommended by physicians?"

The poison or humor which shows itself upon the surface in the form of salt rheum exists in your blood, and the eating of fruit, when you have not been accustomed to it, effects such a change in the system as to allow it to throw the poison to the surface in an effort to expel it from the body. The wearing of a wet bandage about the body for some days will produce a similar result. It is not an unfavorable result, but the reverse, and should be encouraged. If the poison is in the system, get it to the surface and keep it there till such time as it can be entirely expelled. A fruit diet and free perspiration will do this and cure the disease.

How to Make "Gems."—"An inquirer about the staff of life, in the October number of The Herald of Health, mentions the 'Laight Street Gems' as the best in the world. Will you or he be kind enough to give specific directions for the making of these and aerated bread?

"The best bread I have ever eaten is that made of unbolted wheat meal; but I have not succeeded in getting any made with no other addition than water that was not heavy, clammy, and unpalatable."

In the first place, you must have graham or unbolted wheat flour, made from the best white wheat (winter wheat preferred). Flour made from red wheat will not make first-class "gems." They are apt to be heavy and sticky, and they do not look as well. The "gem pans" are sometimes made of tin, about two inches square and three-fourths of an inch deep, a dozen in a set; but cast-iron ones of about the same size are better for family use. They are made of different shapes

to suit the fancy of different persons. The pans should be placed upon the stove, or in the oven, and thoroughly heated before putting the dough in them. This is an essential to having them light. Another essential point is to have the oven very hot when the dough is put in, and kept so until they are baked, which will take from twenty to thirty minutes. The flour should be simply stirred up with cold water to such a consistency as to just allow of its being readily dipped into the pans with a spoon. Each one can soon learn by experience the right thickness of the dough. Bread made according to the above directions should be light, sweet, nutritious, and easily digested, and is best eaten warm from the oven. It is unquestionably the best bread in the world if rightly made. If it is heavy and sticky it is not fit to eat. Aerated bread can only be made on a large scale and by machinery.

How to Reduce Corpulency.—
"Please give directions how to reduce the quantity of fat when one has an excess of it?"

A diet composed largely or wholly of lean meats will undoubtedly strongly tend to reduce fatness, as will also the taking of large quantities of vinegar; but there is a better way-one which will accomplish the same result, and leave the system in a healthier condition afterward. The diet should consist largely of acid and sub-acid fruits, and such vegetables as beans, peas, tomatoes, cabbage, spinach, and asparagus. Very little bread should be eaten, unless it is mainly composed of wheat bran. If the patient is accustomed to the use of meat, he may eat moderately of lean beef or mutton and the least oily kinds Fat meats, butter, gravies, soups, sugar, milk, the sweeter fruits, beets, turnips, potatoes, rice, and farinaceous food generally, should be avoided. Care must be taken not to over-eat. Two meals per day is sufficient. The patient should take as much active, outof-door exercise daily as he can endure, and, if possible, perspire freely. I he can not exercise so as to perspire freely every day, he should take Turkish baths, vapor baths, or packs as often as he can bear them. Turkish bath, with a vigorous shampooing, is always to be preferred when attainable. He should sleep upon a hard bed, in a well-ventilated, cool room, and upon rising take a cold towel bath, followed by a vigorous rubbing, with a coarse, dry towel, of the whole surface of the body. The rubbing should be repeated upon retiring at night. He should not sleep over seven hours during the night, and not a wink during the day. He should drink nothing but water, and as little as possible of that. The above course, strictly followed, will effect the desired result, and at the same time greatly improve the general health and strength.

A Question in Physiology.—"I am a reader of your valuable journal, THE HERALD OF HEALTH, and am much pleased with its contents. I would very much like to see your views on the following question in Physiology. In Prof. J. W. Draper's work on 'Human Physiology,' 7th edition, page 50, chapter on Digestion, I find the following: "The digestive power of this juice" (the gastric juice) "is impeded by the presence of almost any alkaline salt. To this remark common salt offers no exception. It is owing to its alkalinity that saiva injures the digesting power of gastric juice. On the contrary, that power is very much increased by the presence of fat," etc.

The italicized portions of the quotation are what I wish to call your attention to. If saliva is an injurious element in the digestive process, Nature is at fault, apparently, or else the American process of bolting the food whole is a proper one, for the inference from the quotation is, that the less saliva we get into our stomach the better for digestion. And again, fat meats ought to be particuarly serviceable for dyspeptics."

If the above extract was a fair sample of Prof. Draper's Physiology (which it is not), it should at once be consigned to oblivion. The statements that the presence of saliva lessens the digesting power of the gastric juice, while fat increases it, are so manifestly false, that it hardly seems worth while to correct them. The opposite is true in each instance. If the first statement is true, then the Lord evidently made a serious mistake in creating the salivary glands for the secretion of the saliva. Thousands of dyspeptics know from experience that the longer they chew their food, and the more saliva there is mixed with it, the easier it digests in the stomach, and that the more fat they eat, the more they are troubled with indigestion.

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